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SAMSUNG

SERVICE MANUAL

SCM50/SCM51/SCM52/SCM53/SCM55/VP-M50/VP-M51/VP-M51B/VP-M52/VP-M53/VP-M54

SAMSUNG

8mm CAMCORDER

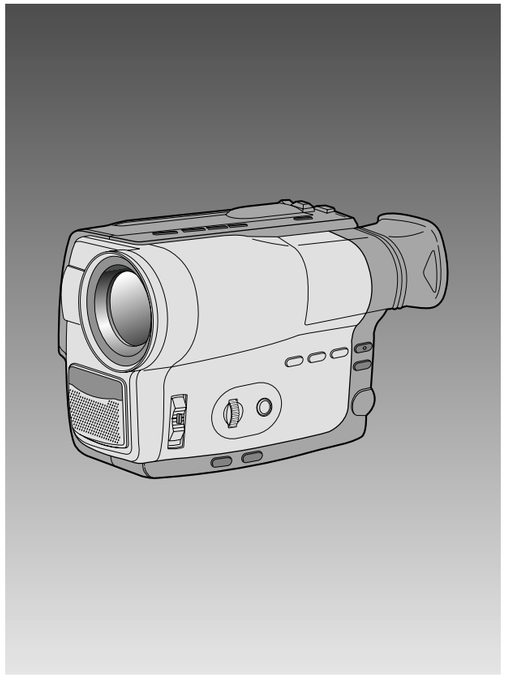
VP-M50/SCM50
VP-M51/SCM51
VP-M52/SCM52
VP-M53/SCM53
VP-M54
VP-M51B

8

SERVICE Manual

For mechanical disassembly and adjustment, refer to the “Mechanical Manual” (DE-6 ⟶ AD68-30200A).

8mm CAMCORDER



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1. Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.

2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including :
   control knobs and compartment covers.

3. Make sure that there are no cabinet openings through which people--particularly children --might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

   If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (See Fig. 1) :
   Warning : Do not use an isolation transformer during this test. Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, *Leakage Current for Appliances*), and Underwriters Laboratories (*UL Publication UL1410, 59.7*).

5. With the unit completely reassembled, plug the AC line cord directly the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including : antennas, handle, brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

6. X-ray Limits :
   The picture tube is designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original.

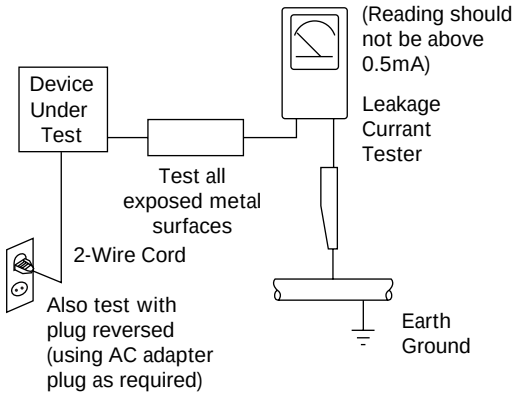

(Reading should not be above 0.5mA)
Device Under Test
Leakage Currant Tester
Test all exposed metal surfaces
2-Wire Cord
Also test with plug reversed (using AC adapter plug as required)
Earth Ground

Fig. 1 AC Leakage Test

7. Antenna Cold Check :
   With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong.
   Connect the other lead to the coaxial connector.

8. High Voltage Limit :
   High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits.

   Heed the high voltage limits. These include the *X-ray protection Specifications Label, and the Product Safety and X-ray Warning Note* on the service data schematic.

9. Some semiconductor ("solid state") devices are easily damaged by static electricity.
   Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors.
   The following techniques will reduce the occurrence of component damage caused by static electricity.

10. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging Wrist-strap device. (Be sure to remove it prior to applying power--this is an electric shock precaution.)

11. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

12. Design Alteration Warning :
    Never alter or add to the mechanical or electrical design of this unit. Example : Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

13. Hot Chassis Warning :
    Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

    To confirm that the AC power plug is inserted correctly, do the following : Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.

14. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, *regardless of the AC plug polarity*. These units can be safely serviced *only* if an isolation transformer inserted between the receiver and the power source.

15. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.

16. Always connect a test instrument's ground lead to the instrument chassis ground *before* connecting the positive lead; always remove the instrument's ground lead last.

17. Observe the original lead dress, especially near the following areas : Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

18. Picture Tube Implosion Warning :
    The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.

19. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.

20. Product Safety Notice :
    Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original--even if the replacement is rated for higher voltage, wattage, etc.

    Components that are critical for safety are indicated in the circuit diagram by shading, (⚠ or ⚠).
    Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications.
    A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

2. Product Specifications and Comparison Chart

2-1 NTSC Model (SCM50/M51/M52/M53)

System	SCM50/M51/M52/M53
Recording system	Video: 2 rotary heads Helical scanning FM Audio: FM monaural system
Video signal	NTSC color, EIA standard
Usable cassette	SCM50/M51/M52/M53: 8mm
Tape speed	SP:14.345 mm/sec
Speed mode	Record: SP only, Playback: SP and LP
Recording time	P6-120: 120 min.
FF or REW time	P6-120: approx. 6.5 min.
Image device	CCD(Charge Coupled Device)
Optical zoom ratio	22X
Focal lengh: f	3.6 ~ 79.2 mm
F	1.6
Filter diameter	46 mm
Focus system	Inner
Macro	Auto wide macro
Min. Illumination	0.3 lux (visible)
Connectors	
Video out	Mini jack, 1 Vp-p, 75 ohms, Unbalanced
Audio out	Mini jack 7.7 dBs, imp.: less than 1.8 K ohms
External mic	Monaural, Ø3.5
General	
Power requirement	7.4 ~ 8.4 V DC
Power consumption	SCM50/M51/M52: 3.9W, SCM53: 4.4W
Built-in mic	Condenser mic, omni-directional
Operating temperature	0°C to 40°C (32°F to 104°F)
Dimension (W x H x D)	101 x 104 x 174.3 (mm) ; 39.7 x 40.9 x 68.6 (inch)
Weight	670g (1/49 lbs)

3. Disassembly and Reassembly

3-1. Cabinet and PCB

3-1-1 Ass'y Cover Housing Removal

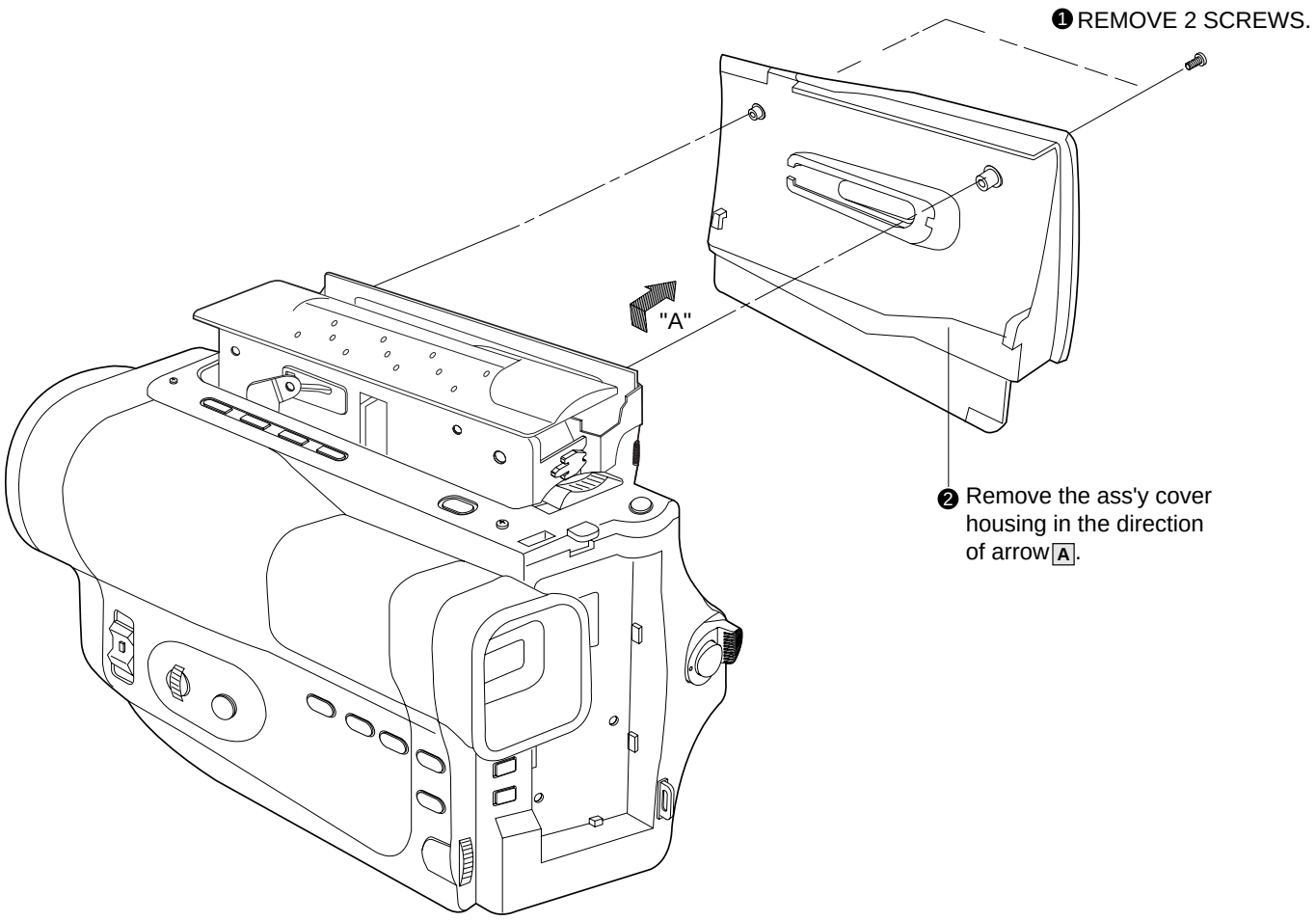


Fig. 3-1 Ass'y Cover Housing Removal

3-1-2 Ass'y Case Top Removal

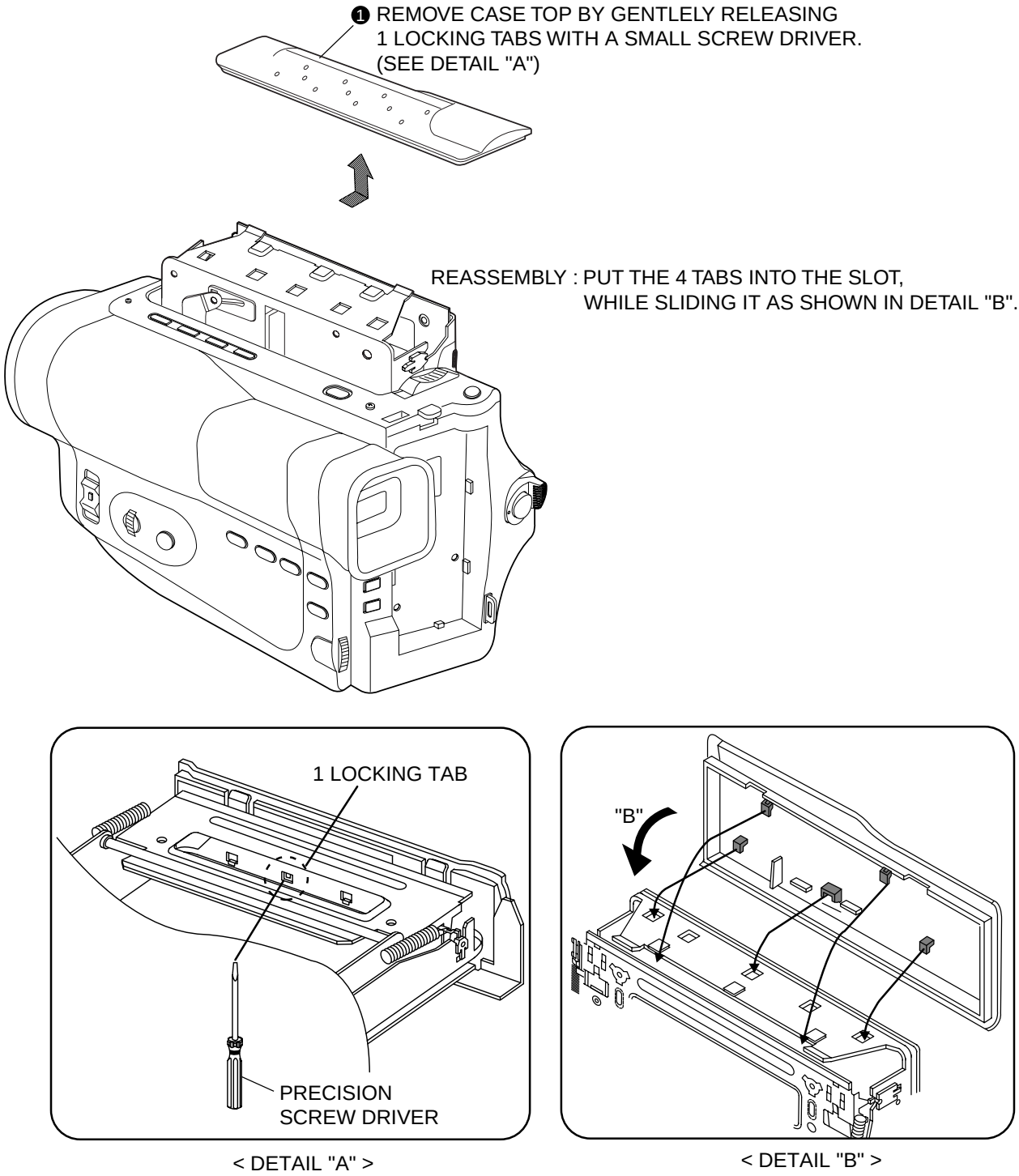

❶ REMOVE CASE TOP BY GENTLELY RELEASING
1 LOCKING TABS WITH A SMALL SCREW DRIVER.
(SEE DETAIL "A")
REASSEMBLY : PUT THE 4 TABS INTO THE SLOT,
WHILE SLIDING IT AS SHOWN IN DETAIL "B".
1 LOCKING TAB
PRECISION
SCREW DRIVER
"B"
< DETAIL "A" >
< DETAIL "B" >

Fig. 4-2 Ass'y Case Top Removal

4. Alignment and Adjustment

4-1. Mechanism Alignment

- Refer to mechanical manual “DE-6 (AD68-30200A)”for the adjustment and checks of mechanism section.
- The location of test point (See Fig.1)

Test Point:
PB RF - Pin 11 of CN452
Head Switching Trigger - Pin 9 of CN452

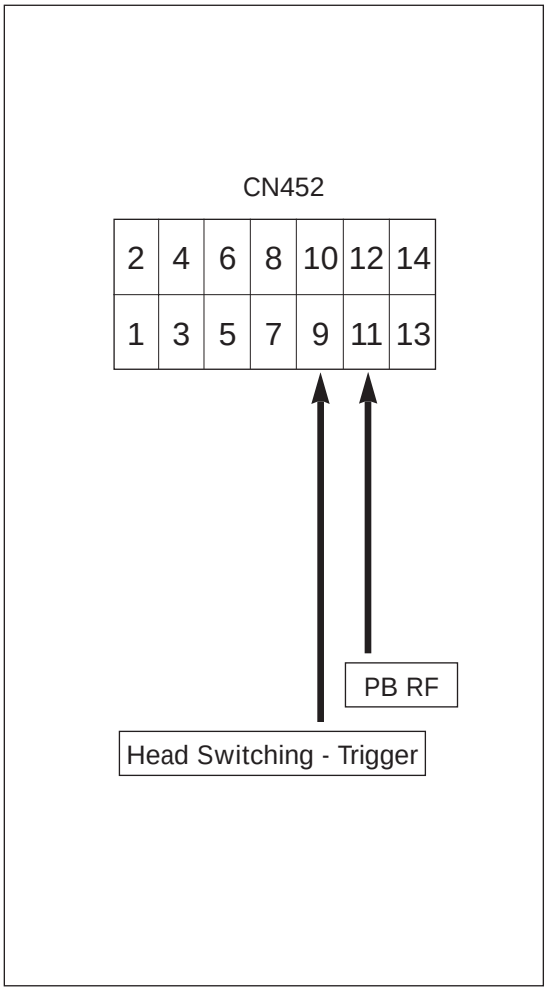


Fig. 1 Test point

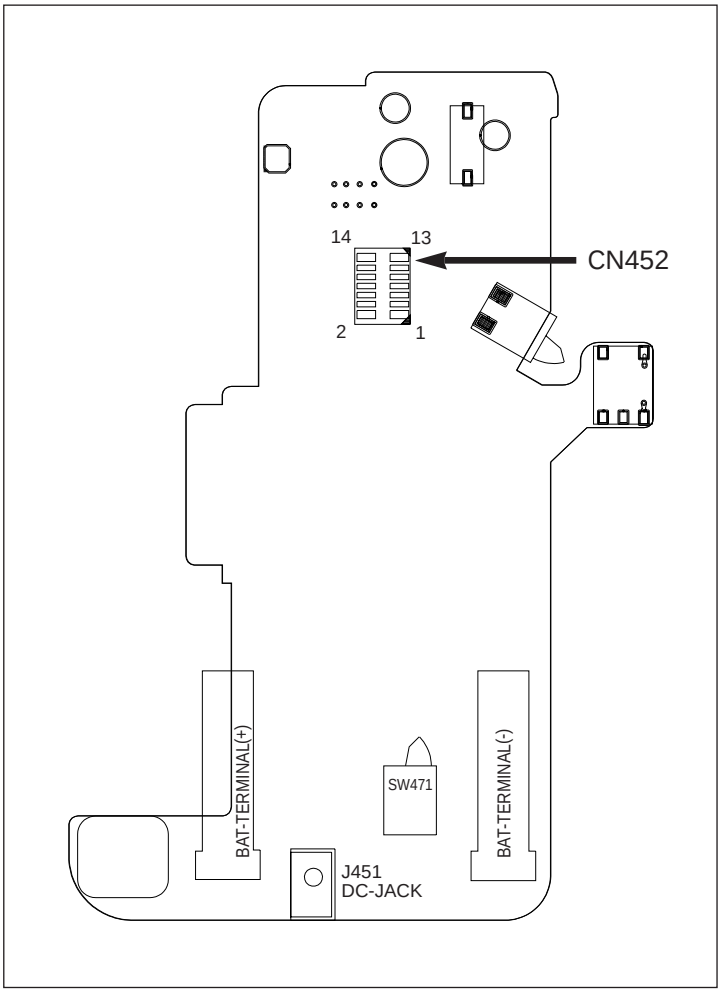


Fig. 2 Test location of test point (Rear Board)

4-2-2 Camera System Adjustment

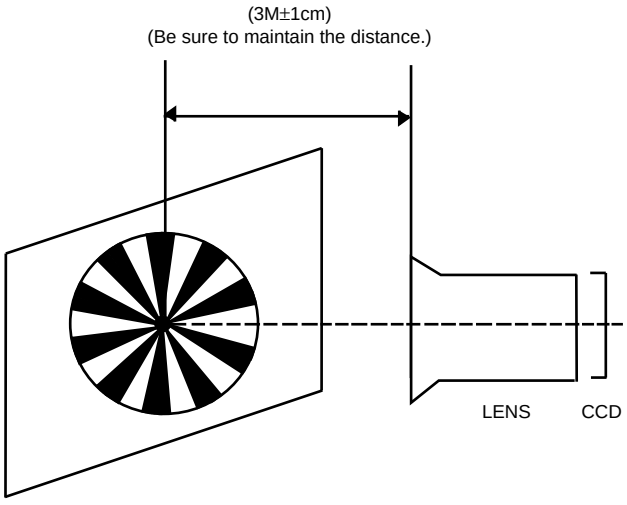
Note : The on-screen display information.
"XX XX" means arbitrary value.
It can be different number depend on the conditions.

0DF	T.INI	XX	XX

1. Focus to zoom tracking

Notes : To maintain proper focus throughout the zoom range, the focus lens position must be changed as the zoom lens is moved.
During this adjustment the microprocessor will measure the focus positioning requirements at the wide and telephoto position of the zoom lens.

1) Camera "E-E".
2) Focus chart (Attached on the last page of this manual).
3) Aim the camera at the focus chart placed 3 meters away and perpendicular to the center of the lens.
The chart should be placed on the flat, gray or white wall.
4) Connect monitor TV jack to video output jack.
5) Press the "FADE(MODE UP)" and "BLC(MODE DOWN)" button, so that the OSD start is "0DE. 3M LENS XX XX".
6) Press "MENU ON / OFF(CONFIRM)" button.
The camera will move both zoom and focus lens.
The adjustment is finished when the O.K! message appears on the TV screen.
Store the data to mode 0A6, 0A7, 0A8, 0A9, 0AA, 0AB, 0AC or 0AD.



5. Exploded View and Parts List

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5-6 Mechanical Parts (1) -5-12

5-7 Mechanical Parts (2) -5-14

5-8 Mechanical Parts (3) -5-16

6. Electrical Parts List

Loc. No	Part No	Desc & Spec	Remark
		ASSY-MAIN BOARD	
C001	2203-001083	C-CERAMIC,CHIP;0.005nF,0.1pF,50V,NP0,TP,	Hi8
C002	2203-000888	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,1608	Hi8
C003	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C004	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C005	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C006	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	Hi8
C007	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C008	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C010	2203-000783	C-CERAMIC,CHIP;0.33nF,5%,50V,NP0,TP,1608	Hi8
C011	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	Hi8
C012	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C014	2404-001039	C-TA,CHIP;47uF,20%,6.3V,GP,TP,3528,-	Hi8
C015	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
C017	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C018	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	Hi8
C019	2203-000604	C-CERAMIC,CHIP;22nF,10%,25V,X7R,TP,1608	Hi8
C020	2203-000604	C-CERAMIC,CHIP;22nF,10%,25V,X7R,TP,1608	Hi8
C021	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C022	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	Hi8
C023	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C024	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
C025	2404-001039	C-TA,CHIP;47uF,20%,6.3V,GP,TP,3528,-	Hi8
C026	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C027	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
C028	2404-001131	C-TA,CHIP;22UF,10%,10V,GP,TP,3528	Hi8
C029	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C030	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C031	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	Hi8
C032	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C033	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C034	2203-001417	C-CERAMIC,CHIP;0.036nF,5%,50V,NP0,TP,160	Hi8
C035	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	Hi8
C037	2203-001408	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,1608	Hi8
C038	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C052	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C053	2203-001686	C-CERAMIC,CHIP;0.075nF,5%,50V,NP0,TP,160	Hi8
C054	2203-000357	C-CERAMIC,CHIP;0.15nF,5%,50V,NP0,TP,1608	Hi8
C055	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	Hi8
C056	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
C061	2203-001408	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,1608	Hi8
C101	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	

Loc. No	Part No	Desc & Spec	Remark
C102	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
C102	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C103	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C103	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	Hi8
C104	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C104	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	Hi8
C105	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C105	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C106	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	NOR
C106	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C107	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C107	2203-000888	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,1608	NOR
C108	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C108	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	NOR
C109	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C109	2203-000384	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160	Hi8
C110	2203-000384	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160	Hi8
C110	2404-001131	C-TA,CHIP;22UF,10%,10V,GP,TP,3528	NOR
C111	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	NOR
C111	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C112	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C113	2203-001686	C-CERAMIC,CHIP;0.075nF,5%,50V,NP0,TP,160	Hi8
C113	2404-001039	C-TA,CHIP;47uF,20%,6.3V,GP,TP,3528,-	NOR
C114	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	NOR
C114	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C115	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C115	2203-000851	C-CERAMIC,CHIP;0.039nF,5%,50V,NP0,TP,160	Hi8
C116	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C116	2203-000604	C-CERAMIC,CHIP;22nF,10%,25V,X7R,TP,1608	NOR
C117	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	Hi8
C117	2203-000604	C-CERAMIC,CHIP;22nF,10%,25V,X7R,TP,1608	NOR
C118	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C119	2203-000384	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160	Hi8
C119	2404-001039	C-TA,CHIP;47uF,20%,6.3V,GP,TP,3528,-	NOR
C120	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	NOR
C120	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	Hi8
C121	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C122	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
C123	2203-001195	C-CERAMIC,CHIP;0.007nF,0.25pF,50V,NP0,TP	Hi8
C124	2203-002605	C-CERAMIC,CHIP;0.008nF,0.25pF,50V,NP0,TP	Hi8
C125	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	Hi8
C126	2203-000384	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160	Hi8

7. PCB Diagrams

7-1 Main PCB (Normal) (Component Side) - - - - - - - - 7-2

7-2 Main PCB (Normal) (Conductor Side) - - - - - - - - - 7-4

7-3 Main PCB (Hi8) (Component Side) - - - - - - - - - - - 7-6

7-4 Main PCB (Hi8) (Conductor Side) - - - - - - - - - - - 7-8

7-5 Rear PCB - 7-10

7-6 CCD PCB - 7-11

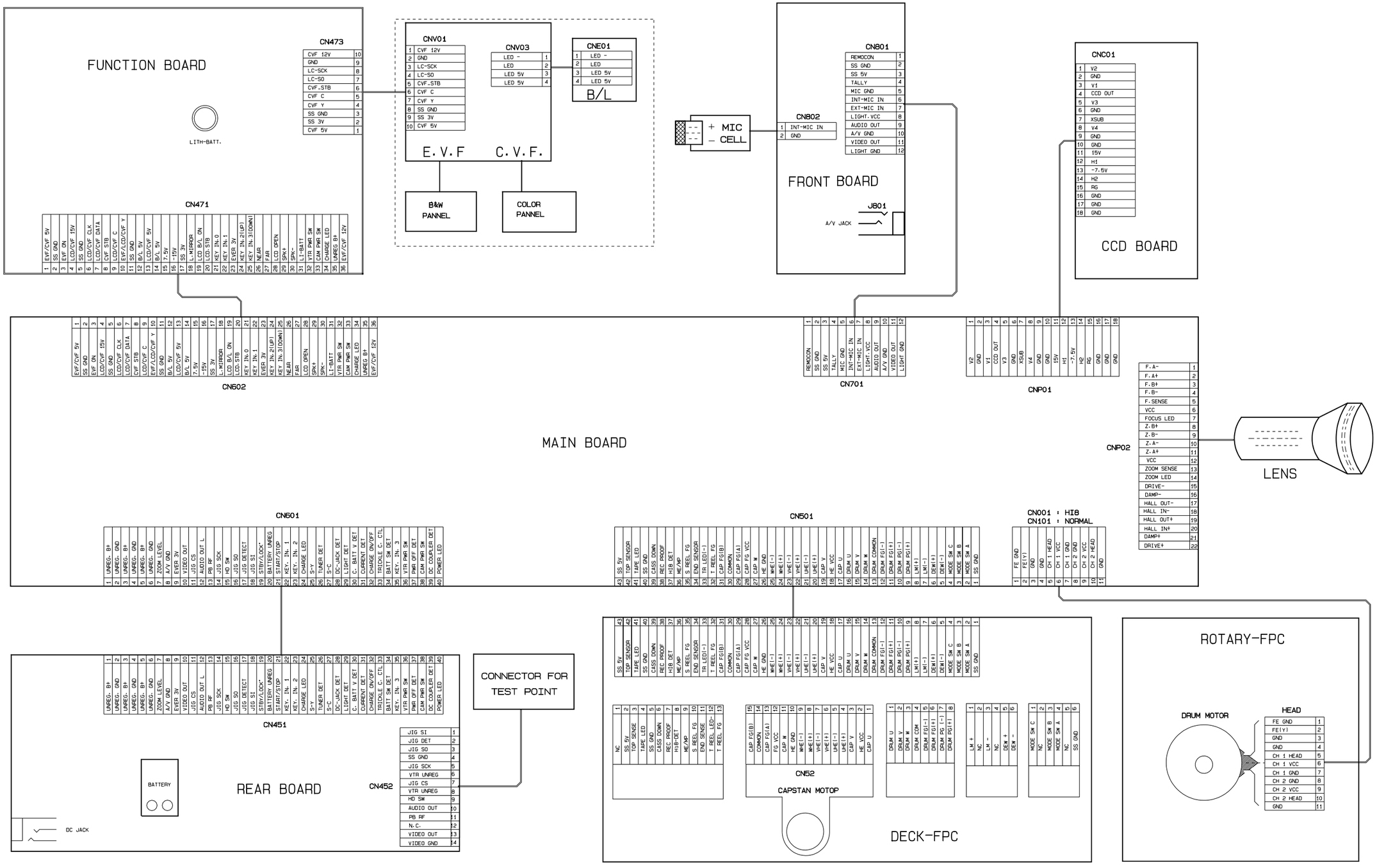
7-7 CVF PCB - 7-12

7-8 EVF PCB - 7-13

7-9 Function PCB - 7-14

7-10 Front PCB - 7-15

8. Wiring Diagram



9. Schematic Diagrams

OPTION LIST - 9-2

9-1 DC/DC Converter (Main) - - - - - - - - - - - - - - - - - - - 9-4

9-2 System Control/Servo (Main) - - - - - - - - - - - - - - - - 9-5

9-3 Video (Normal) (Main) - 9-6

9-4 Video (Hi8) (Main) - 9-7

9-5 Audio (Main) - 9-8

9-6 Camera (Main) - 9-9

9-7 Rear - 9-10

9-8 CCD - 9-11

9-9 CVF - 9-12

9-10 Front - 9-13

9-11 Function - 9-14

9-12 EVF - 9-15

Note

For schematic Diagram
- Resistors are in ohms, 1/8W unless otherwise noted.
- Circled numbers refer to waveforms.

Special note :
Most semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the “electrostatically sensitive (ES) devices” section of this service manual.

Note :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list (may be slightly different or amended since this drawing was prepared).

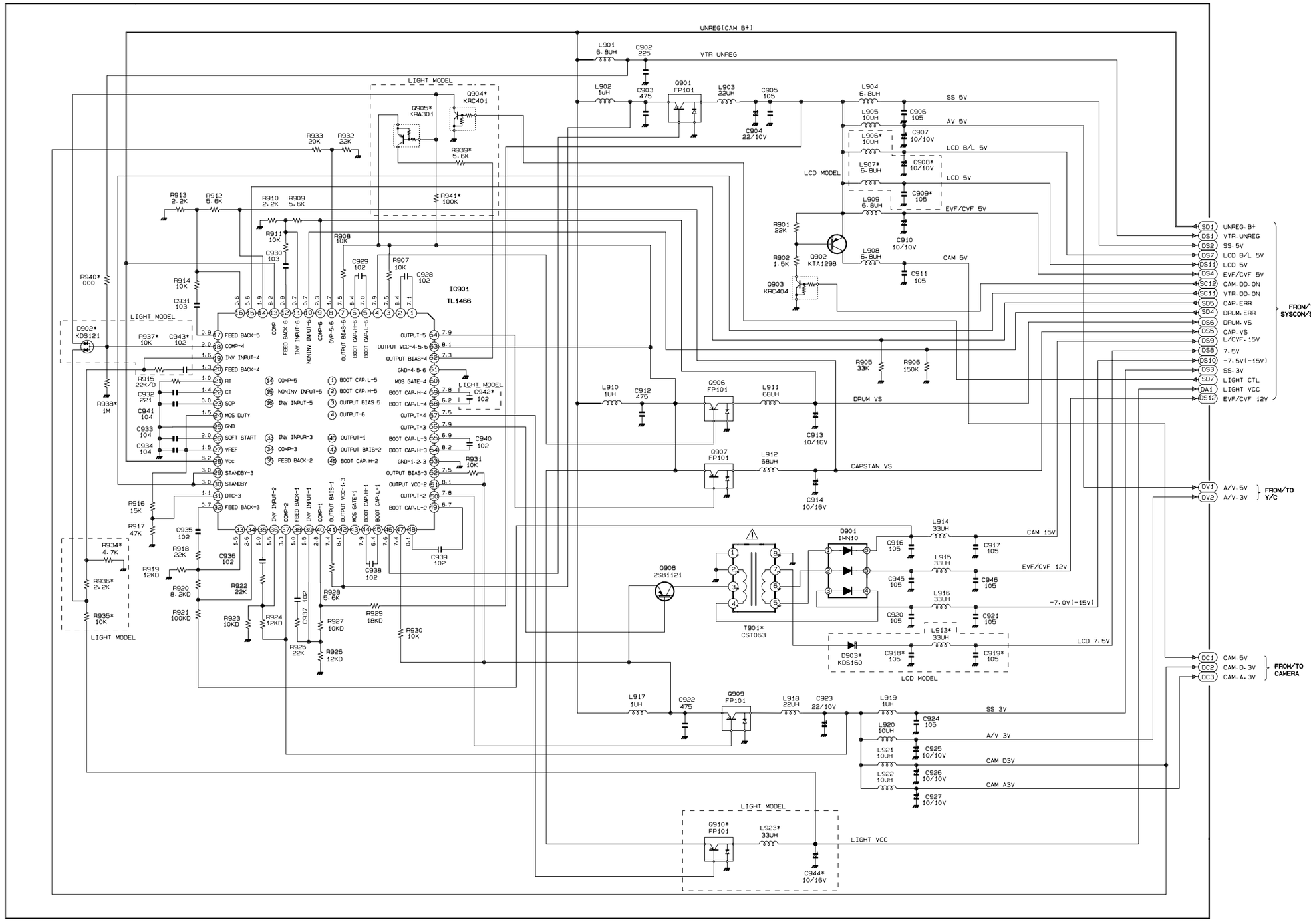
Important safety notices :
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components. Use only the same type.

OPTION LIST

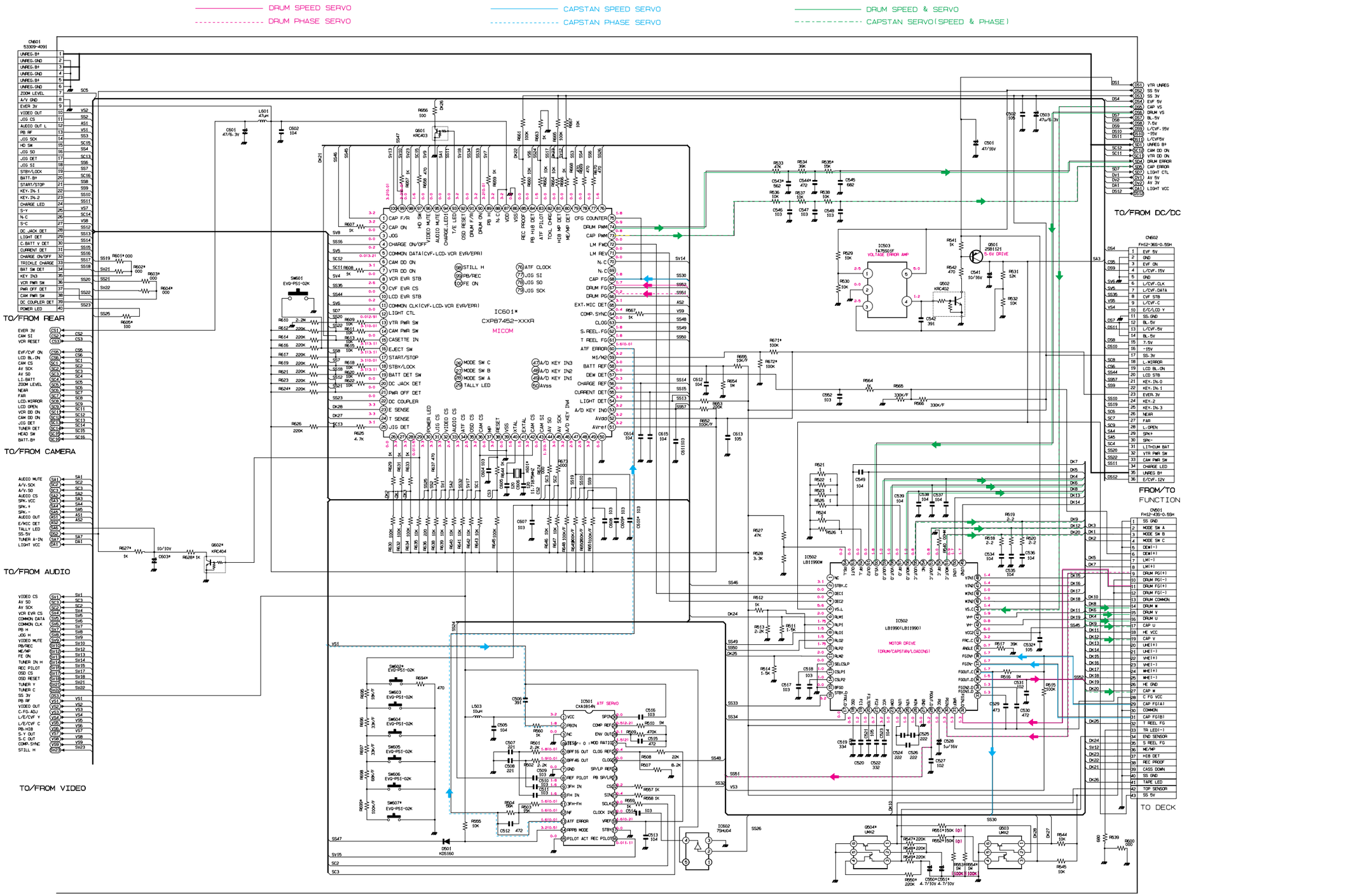
NO	LOC	VALUE(BASIC)	SCM50	SCM51	SCM52	SCM53	VP-M50	VP-M51	VP-M51(B)	VP-M52	VP-M53	VP-M54	OPTION
1	C156	120,50V,*	O	O	O	O	X	X	X	X	X	-	NTSC
		150,50V,*	X	X	X	X	O	O	O	O	O	-	PAL
2	C201	120,50V,*	X	X	X	X	O	O	O	O	O	-	PAL
		150,50V,*	O	O	O	O	X	X	X	X	X	-	NTSC
3	C220	103,50V,*	-	-	-	-	-	-	-	-	-	X	None
4	C223	103,50V,*	X	X	X	X	O	O	O	O	O	-	PAL
		471,50V,*	O	O	O	O	X	X	X	X	X	-	NTSC
5	C224	332,50V,*	X	X	X	X	O	O	O	O	O	-	PAL
		221,50V,*	O	O	O	O	X	X	X	X	X	-	NTSC
6	C231	120,50V,*	-	-	-	-	-	-	-	-	-	O	PAL
7	C233	151,50V,*	O	O	O	O	X	X	X	X	X	-	NTSC
		820,50V,*	X	X	X	X	O	O	O	O	O	-	PAL
8	C249	103,50V,*	X	X	X	X	X	X	X	X	X	-	None
9	C250	103,50V,*	X	X	X	X	X	X	X	X	X	-	None
10	C251	103,50V,*	X	X	X	X	X	X	X	X	X	-	None
11	C252	103,50V,*	X	X	X	X	X	X	X	X	X	-	None
12	C263	103,50V,*	-	-	-	-	-	-	-	-	-	O	PAL
13	C264	332,50V,*	-	-	-	-	-	-	-	-	-	O	PAL
14	C281	470nF,25V,*	X	X	X	X	X	X	X	X	X	-	None
		680,50V,*	-	-	-	-	-	-	-	-	-	O	PAL
15	C282	470nF,25V,*	X	X	X	X	X	X	X	X	X	-	None
16	C283	121,50V,*	-	-	-	-	-	-	-	-	-	O	PAL
17	C543	472,50V,*	O	O	O	O	X	X	X	X	X	-	NTSC
		562,50V,*	X	X	X	X	O	O	O	O	O	O	PAL
18	C544	392,50V,*	O	O	O	O	X	X	X	X	X	-	NTSC
		472,50V,*	X	X	X	X	O	O	O	O	O	O	PAL
19	C550	4.7/10V*	O	O	O	O	O	O	O	O	O	O	BUFFER O
20	C551	4.7/10V*	O	O	O	O	O	O	O	O	O	O	BUFFER O
21	C603	10/10V,	X	X	X	X	X	X	X	X	X	X	None
22	C609	102,50V,*	O	O	O	O	O	O	O	O	O	O	M1
23	C610	102,50V,*	O	O	O	O	O	O	O	O	O	O	M1
24	C724	10/10V,	X	X	X	X	X	X	X	X	X	X	None
25	C725	47/6.3V,	X	X	X	X	X	X	X	X	X	X	None
26	C726	10/10V,	X	X	X	X	X	X	X	X	X	X	None
27	C727	0.68/25V,	X	X	X	X	X	X	X	X	X	X	None
28	C733	105,25V,*	X	X	X	X	X	X	X	X	X	X	None
29	C740	104,25V,*	X	X	X	X	X	X	X	X	X	X	None
30	C761	10/10V,	X	X	O	O	X	O	O	O	O	O	REMOCON O
31	C908	10/10V,	X	X	X	X	X	X	X	X	X	X	None
32	C909	105,25V,*	X	X	X	X	X	X	X	X	X	X	None
33	C918	105,25V,*	X	X	X	X	X	X	X	X	X	X	None
34	C919	105,25V,*	X	X	X	X	X	X	X	X	X	X	None
35	C942	102,50V,*	X	X	X	X	X	X	X	X	X	X	None
36	C943	102,50V,*	X	X	X	X	X	X	X	X	X	X	None
37	C944	10/16V,	X	X	X	X	X	X	X	X	X	X	None
38	CD03	22/10V,	X	X	X	O	X	X	X	X	O	O	DIS O
39	CD04	104,25V,*	X	X	X	O	X	X	X	X	O	O	DIS O
40	CD05	104,25V,*	X	X	X	O	X	X	X	X	O	O	DIS O
41	CD06	104,25V,*	-	-	-	-	-	-	-	-	-	O	DIS O
42	CD07	104,25V,*	X	X	X	O	X	X	X	X	O	O	DIS O
43	CD08	104,25V,*	X	X	X	O	X	X	X	X	O	O	DIS O
44	CD09	104,25V,*	X	X	X	O	X	X	X	X	O	O	DIS O
45	CD10	22/10V,	X	X	X	O	X	X	X	X	O	O	DIS O
46	CD11	104,25V,*	X	X	X	O	X	X	X	X	O	O	DIS O
47	CD12	105,25V,*	X	X	X	O	X	X	X	X	O	O	DIS O
48	CP64	220,50V,*	O	O	O	O	O	O	O	O	O	-	NORMAL
		150,50V,*	-	-	-	-	-	-	-	-	-	O	HI8
49	CP67	180,50V,*	X	X	X	X	O	O	O	O	O	-	PAL
50	CP67	270,50V,*	O	O	O	O	X	X	X	X	X	-	NTSC
51	CP78	103,50V,*	X	X	X	X	X	X	X	X	X	-	None
52	CW01	104,25V,*	X	X	X	X	X	X	X	X	X	O	XDR O
53	CW02	10/10V,	X	X	X	X	X	X	X	X	X	O	XDR O
54	CW03	104,25V,*	X	X	X	X	X	X	X	X	X	O	XDR O
55	CW04	104,25V,*	X	X	X	X	X	X	X	X	X	O	XDR O
56	D902	85V,300mA,*	X	X	X	X	X	X	X	X	X	X	None
57	D903	KDS160,85V,*	X	X	X	X	X	X	X	X	X	X	None
58	IC281	NJM2249V,NONE,*	X	X	X	X	X	X	X	X	X	X	None
59	IC401	M35040-064FP,150mW,*	O	O	O	O	O	O	O	O	O	-	EXP
60	IC431	M35040-064FP,150mW,*	-	-	-	-	-	-	-	-	-	O	EXP
61	IC601	CXP874P60R-1,100P,*	X	X	X	X	O	O	O	O	O	O	PAL
62	IC601	CXP874P60R-1,100P,*	O	O	O	O	X	X	X	X	X	-	NTSC
63	ICD01	KM416S1120,TSOP,*	X	X	X	O	X	X	X	X	O	O	DIS O
64	ICD02	KS7333,QFP,*	X	X	X	O	X	X	X	X	O	O	DIS O
65	ICD03	TC7S08FU,NONE,*	X	X	X	O	X	X	X	X	O	O	DIS O
66	ICW01	KS7332B,VQFP,*	X	X	X	X	X	X	X	X	X	O	XDR O
67	L281	10uH,5%,*	-	-	-	-	-	-	-	-	-	O	PAL
68	L351	33uH,10%,*	X	X	X	X	X	X	X	X	X	X	None
69	L702	100uH,NONE,*	X	X	X	X	X	X	X	X	X	X	None
70	L906	10uH,10%,*	X	X	X	X	X	X	X	X	X	X	None
71	L907	6.8UH,NONE,*	X	X	X	X	X	X	X	X	X	X	None
72	L913	33uH,10%,*	X	X	X	X	X	X	X	X	X	X	None
73	L923	33UH,NONE,*	X	X	X	X	X	X	X	X	X	-	None
74	LD01	22uH,NONE,*	X	X	X	O	X	X	X	X	O	O	DIS O
75	LD02	22uH,10%,*	X	X	X	O	X	X	X	X	O	O	DIS O
76	Q220	UMX2,50V,*	-	-	-	-	-	-	-	-	-	X	None
77	Q222	UMX2,50V,*	X	X	X	X	X	X	X	X	X	-	None
78	Q225	2SC4081,200mW,*	-	-	-	-	-	-	-	-	-	X	None
79	Q241	KTA2014,100mW,*	-	-	-	-	-	-	-	-	-	X	None
80	Q242	KRC404,100mW,*	-	-	-	-	-	-	-	-	-	X	None
81	Q269	2SC4081,200mW,*	-	-	-	-	-	-	-	-	-	X	None
82	Q283	2SC4081,200mW,*	X	X	X	X	X	X	X	X	X	-	None
83	Q353	KTA2014,100mW,*	X	X	X	X	X	X	X	X	X	-	None
84	Q354	KRC404,100mW,*	X	X	X	X	X	X	X	X	X	-	None
85	Q504	UMX2,50V,*	O	O	O	O	O	O	O	O	O	O	BUFFER O
86	Q602	KRC404,100mW,*	X	X	X	X	X	X	X	X	X	X	None
87	Q701	KTA1298,PNP,*	X	X	X	X	X	X	X	X	X	X	None
88	Q702	KRC402,100MW,*	X	X	X	X	X	X	X	X	X	X	None
89	Q761	100mW,47K/47Kohm,*	X	X	O	O	X	O	O	O	O	-	REMOCON O
90	Q762	2SC4081,200mW,*	X	X	O	O	X	O	O	O	O	O	REMOCON O
91	Q904	100mW,4.7K,*	X	X	X	X	X	X	X	X	X	X	None
92	Q905	100mW,4.7K,*	X	X	X	X	X	X	X	X	X	X	None
93	Q910	FP101,1.3W,*	X	X	X	X	X	X	X	X	X	X	None
94	QP07	2SB970R,200mW,*	X	X	X	X	X	X	X	X	X	X	None
95	R024	680,(1/16W),*	-	-	-	-	-	-	-	-	-	O	PAL
96	R159	1.2K,(1/16W),*	O	O	O	O	X	X	X	X	X	-	NTSC
		750(1/16W),*	X	X	X	X	O	O	O	O	O	-	PAL
97	R162	330,(1/16W),*	X	X	X	X	O	O	O	O	O	-	PAL
		470,(1/16W),*	O	O	O	O	X	X	X	X	X	-	NTSC
98	R163	330,(1/16W),*	O	O	O	O	O	O	O	O	O	-	PAL
99	R206	560,(1/16W),*	O	O	O	O	X	X	X	X	X	-	NTSC
		680,(1/16W),*	X	X	X	X	O	O	O	O	O	-	PAL
100	R211	3.3K,(1/16W),*	O	O	O	O	X	X	X	X	X	-	NTSC
		2.2K,(1/16W),*	X	X	X	X	O	O	O	O	O	-	PAL
101	R216	000,(1/16W),*	-	-	-	-	-	-	-	-	-	X	None
102	R223	3.3K,(1/16W),*	-	-	-	-	-	-	-	-	-	X	None
103	R225	15K,(1/16W),*	-	-	-	-	-	-	-	-	-	X	None
104	R226	10K,(1/16W),*	-	-	-	-	-	-	-	-	-	X	None
105	R230	1K,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None
106	R231	1.5K,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None
107	R232	2.2K,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None
108	R233	1.5K,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None
109	R234	1K,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None

NO	LOC	VALUE(BASIC)	SCM50	SCM51	SCM52	SCM53	VP-M50	VP-M51	VP-M51(B)	VP-M52	VP-M53	VP-M54	OPTION
110	R235	000,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None
111	R241	1K,(1/16W),*	-	-	-	-	-	-	-	-	-	X	None
112	R247	4.7K,(1/16W),*	-	-	-	-	-	-	-	-	-	X	None
113	R261	2.2K,(1/16W),*	-	-	-	-	-	-	-	-	-	O	PAL
114	R268	5.6K,(1/16W),*	-	-	-	-	-	-	-	-	-	X	None
115	R269	10K,(1/16W),*	-	-	-	-	-	-	-	-	-	X	None
116	R270	470,(1/16W),*	-	-	-	-	-	-	-	-	-	X	None
117	R281	22K,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None
118	R282	18K,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None
119	R283	560,(1/16W),*	-	-	-	-	-	-	-	-	-	O	PAL
120	R284	2.2K,(1/16W),*	-	-	-	-	-	-	-	-	-	O	PAL
121	R292	1K,(1/16W),*	X	X	X	X	O	O	O	O	O	-	PAL
		820,(1/16W),*	O	O	O	O	X	X	X	X	X	-	NTSC
122	R297	2.2K,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None
123	R353	4.7K,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None
124	R354	1K,(1/16W),*	X	X	X	X	X	X	X	X	X	-	None
125	R535	10K,(1/16W),*	O	O	O	O	X	X	X	X	X	-	NTSC
126	R535	15K,(1/16W),*	X	X	X	X	O	O	O	O	O	O	PAL
127	R547	220K,(1/16W),*	O	O	O	O	O	O	O	O	O	O	BUFFER O
128	R548	220K,(1/16W),*	O	O	O	O	O	O	O	O	O	O	BUFFER O
129	R549	220K,(1/16W),*	O	O	O	O	O	O	O	O	O	O	BUFFER O
130	R550	220K,(1/16W),*	O	O	O	O	O	O	O	O	O	O	BUFFER O
131	R551	150K,(1/16W),*	O	O	O	O	O	O	O	O	O	O	BUFFER O
132	R552	150K,(1/16W),*	O	O	O	O	O	O	O	O	O	O	BUFFER O
133	R553	1M,(1/16W),*	O	O	O	O	O	O	O	O	O	O	BUFFER O
134	R554	1M,(1/16W),*	O	O	O	O	O	O	O	O	O	O	BUFFER O
135	R601	000,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
136	R602	000,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
137	R603	000,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
138	R604	000,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
139	R605	100,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
140	R606	000,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
141	R624	220K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
142	R627	1K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
143	R628	1K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
144	R649	1M,(1/16W),*	O	O	O	O	O	O	O	O	O	O	M1
145	R650	1M,(1/16W),*	O	O	O	O	O	O	O	O	O	O	M1
146	R671	100K,(1/16W),*	O	O	O	O	O	O	O	O	O	O	M1
147	R672	100K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
148	R694	470,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
149	R699	100K/F,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
150	R717	470,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
151	R718	1K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
152	R726	4.7K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
153	R735	1K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
154	R744	10K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
155	R745	10K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
156	R761	10K,(1/16W),*	X	X	O	O	X	O	O	O	O	O	REMOCON O
157	R762	15K,(1/16W),*	X	X	O	O	X	O	O	O	O	O	REMOCON O
158	R763	47,(1/16W),*	X	X	O	O	X	O	O	O	O	O	REMOCON O
159	R906	100K,(1/16W),*	O	O	O	O	X	X	X	X	X	-	NTSC
		150K,(1/16W),*	X	X	X	X	O	O	O	O	O	-	PAL
160	R934	4.7K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
161	R935	10K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
162	R936	2.2K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
163	R937	10K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
164	R938	1M,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
165	R939	5.6K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
166	R940	000,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
167	R941	100K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
168	RD05	000,(1/16W),*	X	X	X	O	X	X	X	X	O	O	DIS O
169	RD51	10,1/16W,*	X	X	X	O	X	X	X	X	O	O	DIS O
170	RP100	000,(1/16W),*	O	O	X	X	O	O	O	X	O	-	B&W
171	RP100	000,(1/16W),*	X	X	O	O	X	X	X	O	X	O	CVF
172	RP101	000,(1/16W),*	O	O	O	O	O	O	O	O	O	X	XDR X
173	RP102	000,(1/16W),*	O	O	O	O	O	O	O	O	O	X	XDR X
174	RP103	000,(1/16W),*	O	O	O	O	O	O	O	O	O	X	XDR X
175	RP104	000,(1/16W),*	O	O	O	O	O	O	O	O	O	X	XDR X
176	RP105	000,(1/16W),*	O	O	O	O	O	O	O	O	O	X	XDR X
177	RP106	000,(1/16W),*	O	O	O	O	O	O	O	O	O	X	XDR X
178	RP107	000,(1/16W),*	O	O	O	O	O	O	O	O	O	X	XDR X
179	RP108	000,(1/16W),*	O	O	O	O	O	O	O	O	O	X	XDR X
180	RP109	000,(1/16W),*	O	O	O	O	O	O	O	O	O	X	XDR X
181	RP110	000,(1/16W),*	O	O	O	O	O	O	O	O	O	X	XDR X
182	RP111	000,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
183	RP112	000,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
184	RP113	000,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
185	RP114	000,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
186	RP115	000,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
187	RP116	000,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
188	RP117	000,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
189	RP118	000,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
190	RP119	000,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
191	RP120	000,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
192	RP130	100K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
193	RP131	100K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
194	RP141	100K,(1/16W),*	X	X	X	O	X	X	X	X	O	O	DIS O
195	RP142	1K,(1/16W),*	O	O	O	X	O	O	O	O	X	X	DIS X
196	RP300	000,(1/16W),*	O	O	O	O	O	O	O	O	O	O	M1
197	RP301	000,(1/16W),*	O	O	O	O	O	O	O	O	O	O	M1
198	RP302	000,(1/16W),*	O	O	O	O	O	O	O	O	O	O	M1
199	RP303	000,(1/16W),*	O	O	O	O	O	O	O	O	O	O	M1
200	RP304	000,(1/16W),*	O	O	O	O	O	O	O	O	O	-	M1
201	RP66	100K,(1/16W),*	X	X	X	X	O	O	O	O	O	O	PAL
202	RP67	100K,(1/16W),*	X	X	X	X	X	X	X	X	X	O	None
203	RP68	1K,(1/16W),*	O	O	O	O	X	X	X	X	X	X	NTSC
204	RP69	1K,(1/16W),*	O	O	O	O	O	O	O	O	O	X	NORMAL
205	RP98	12K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
206	RP99	12K,(1/16W),*	X	X	X	X	X	X	X	X	X	X	None
207	RW01	4.3,(1/10W),*	X	X	X	X	X	X	X	X	X	O	None
208	SW601	SWITCH-TACT,12V,*	O	O	O	O	O	O	O	O	O	-	M1
209	SW602	SWITCH-TACT,12V,*	X	X	X	X	X	X	X	X	X	X	None
210	SW603	SWITCH-TACT,12V,*	O	O	O	O	O	O	O	O	O	-	M1
211	SW604	SWITCH-TACT,12V,*	O	O	O	O	O	O	O	O	O	-	M1
212	SW605	SWITCH-TACT,12V,*	O	O	O	O	O	O	O	O	O	-	M1
213	SW606	SWITCH-TACT,12V,*	O	O	O	O	O	O	O	O	O	-	M1
214	SW607	SWITCH-TACT,12V,*	X	X	X	X	X	X	X	X	X	X	None
215	T901	TRANS,CST063(M1),*	O	O	X	X	O	O	O	X	O	O	B&W
		TRANS,CST063(M1),*	X	X	O	O	X	X	X	O	X	-	CVF
216	X601	11.71875MHZ,NONE,*	X	X	X	X	O	O	O	O	O	O	PAL
		11.895104MHZ,NONE,*	O	O	O	O	X	X	X	X	X	-	NTSC
217	XP01	28.375MHZ,NONE,*	X	X	X	X	O	O	O	O	O	O	PAL
		28.63636MHZ,NONE,*	O	O	O	O	X	X	X	X	X	-	NTSC

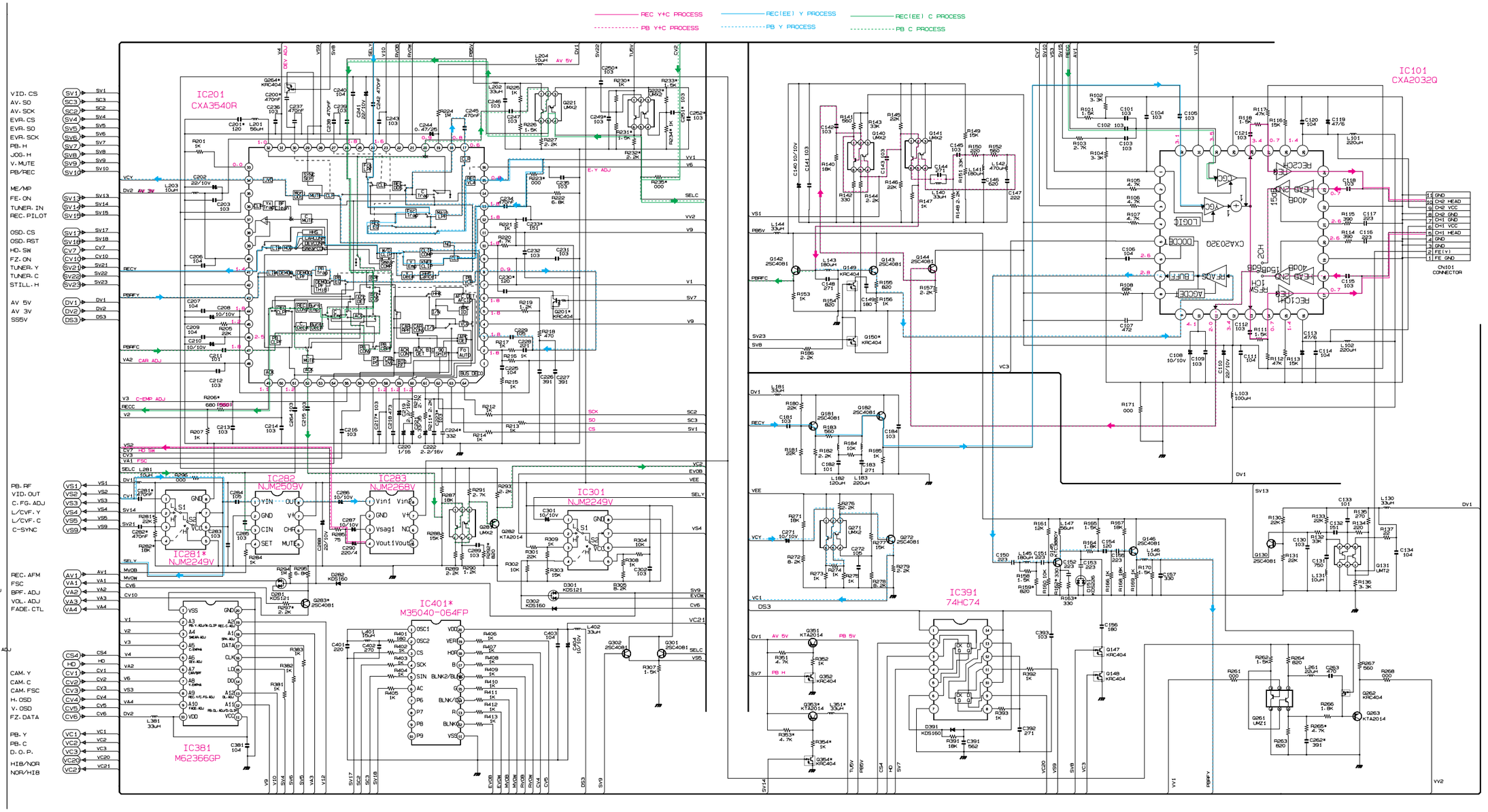
9-1 DC/DC Converter (Main)



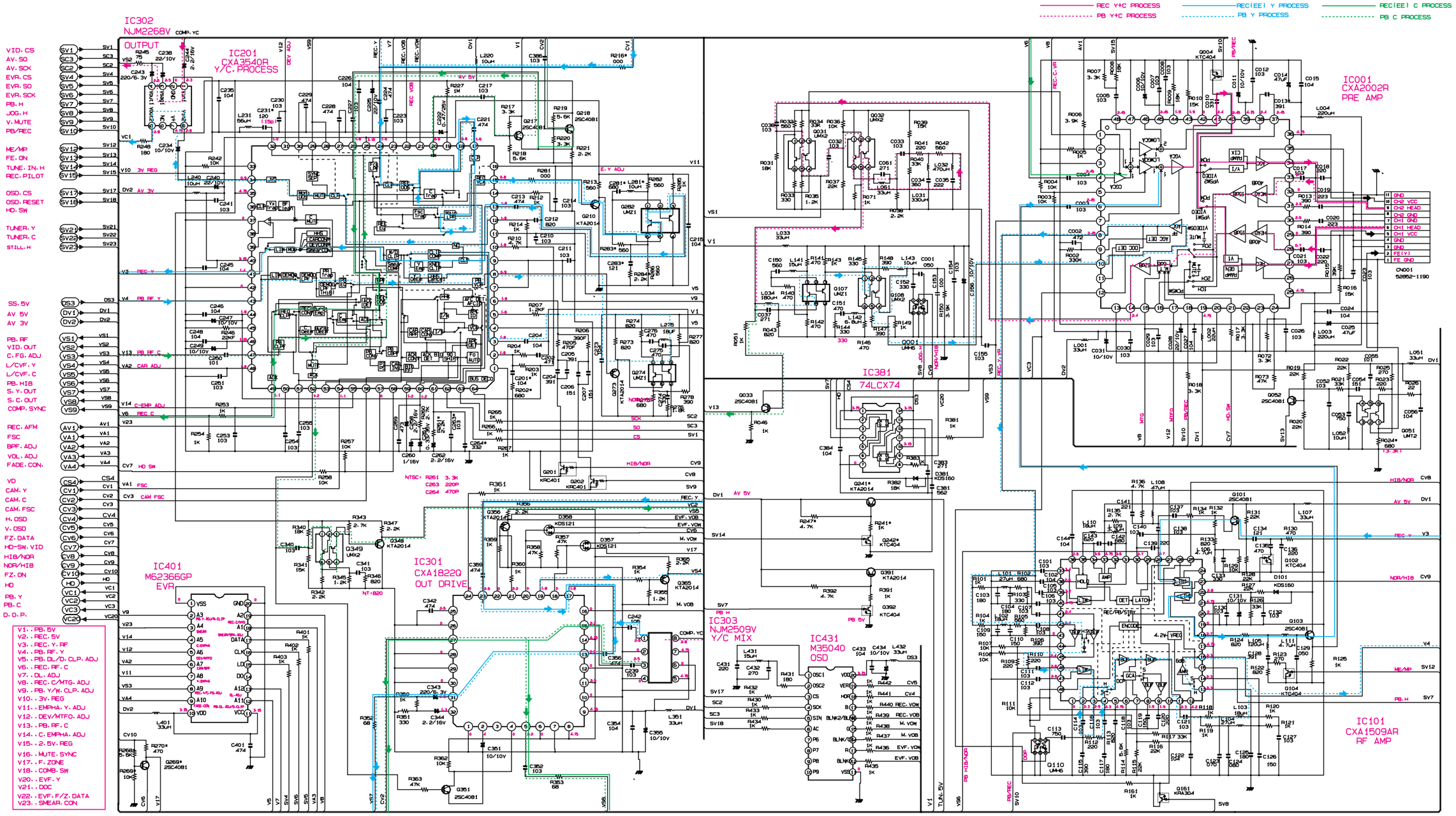
9-2 System Control/Servo (Main)



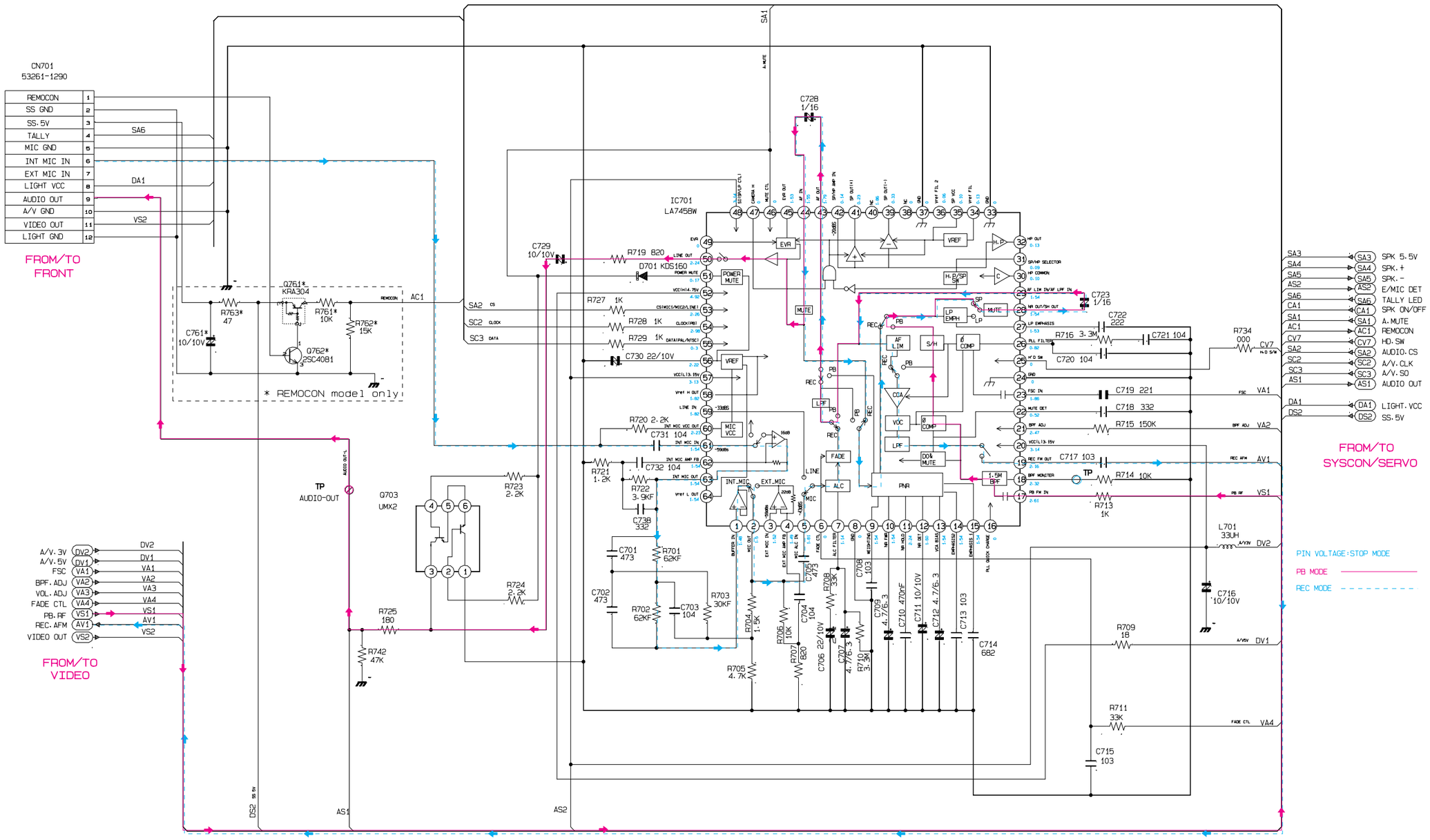
9-3 Video (Normal) (Main)



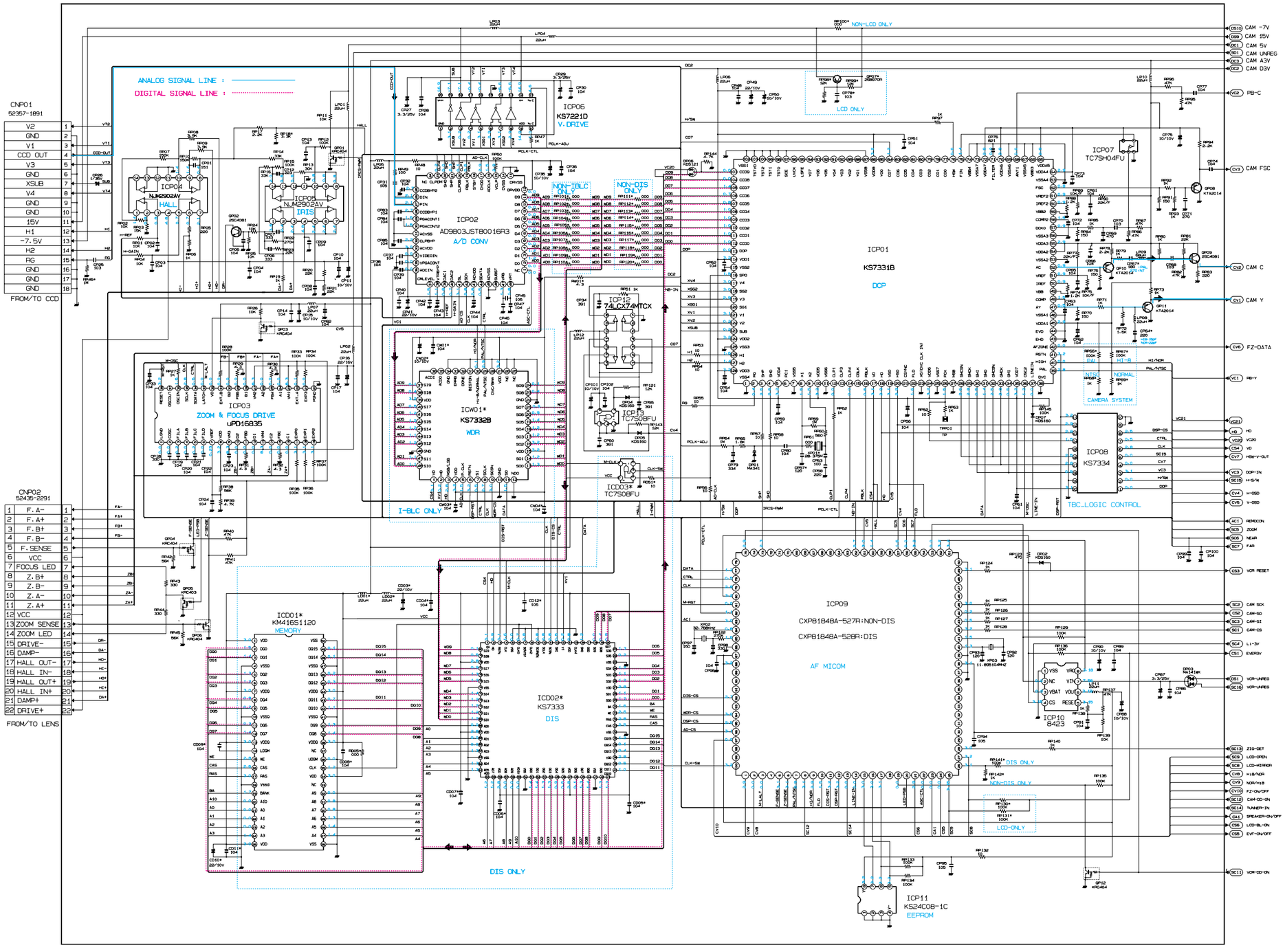
9-4 Video (Hi8) (Main)



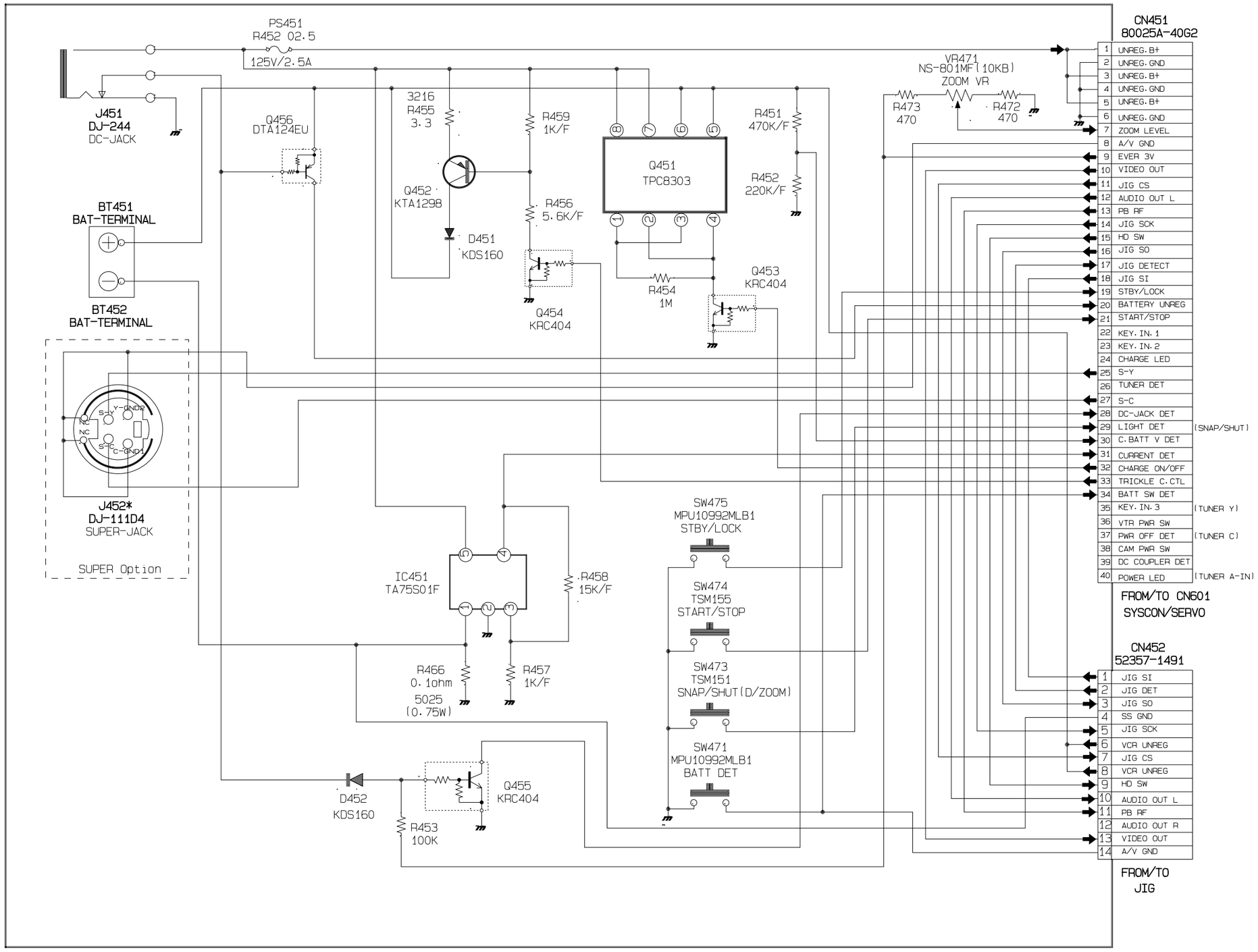
9-5 Audio (Main)



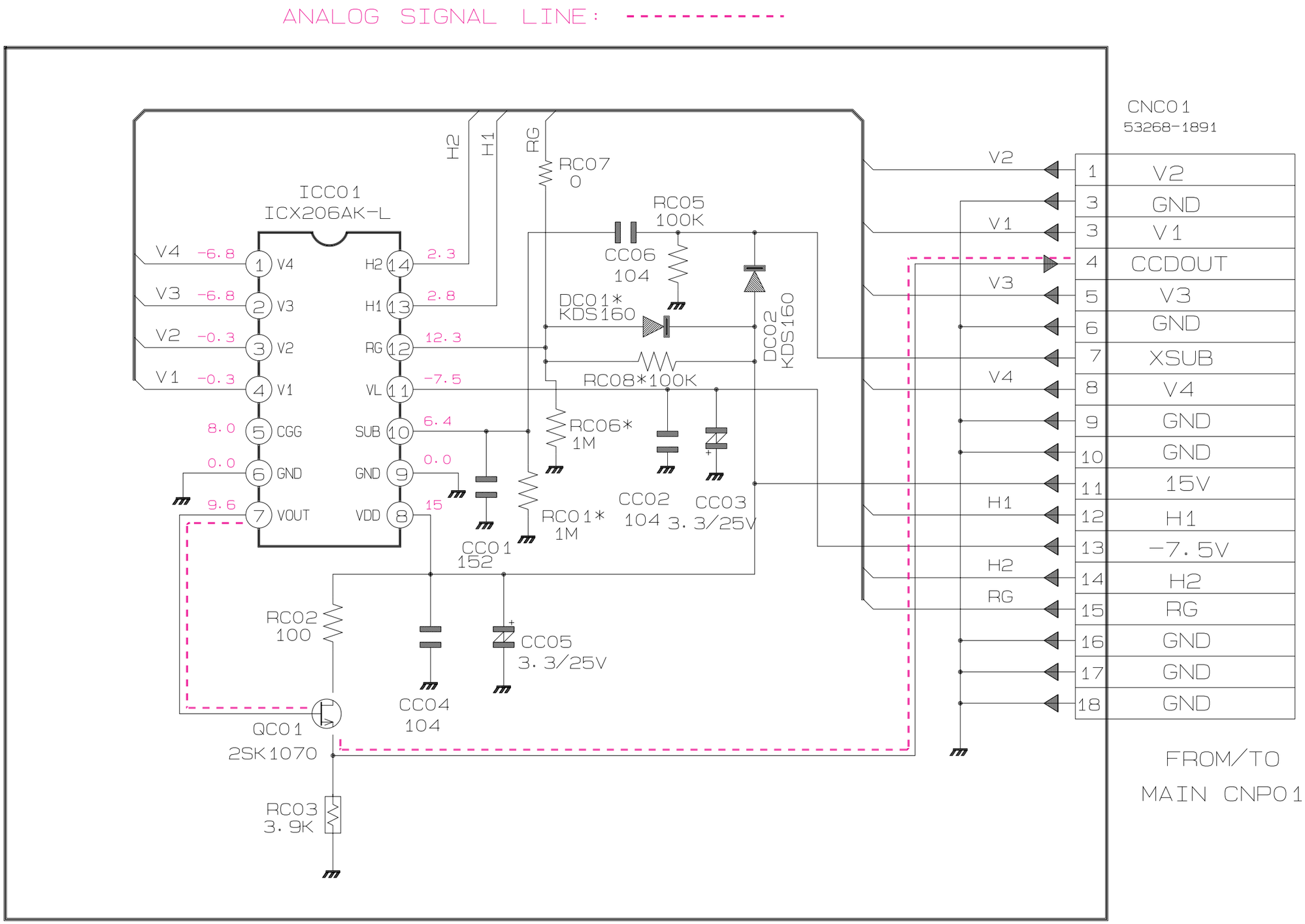
9-6 Camera (Main)



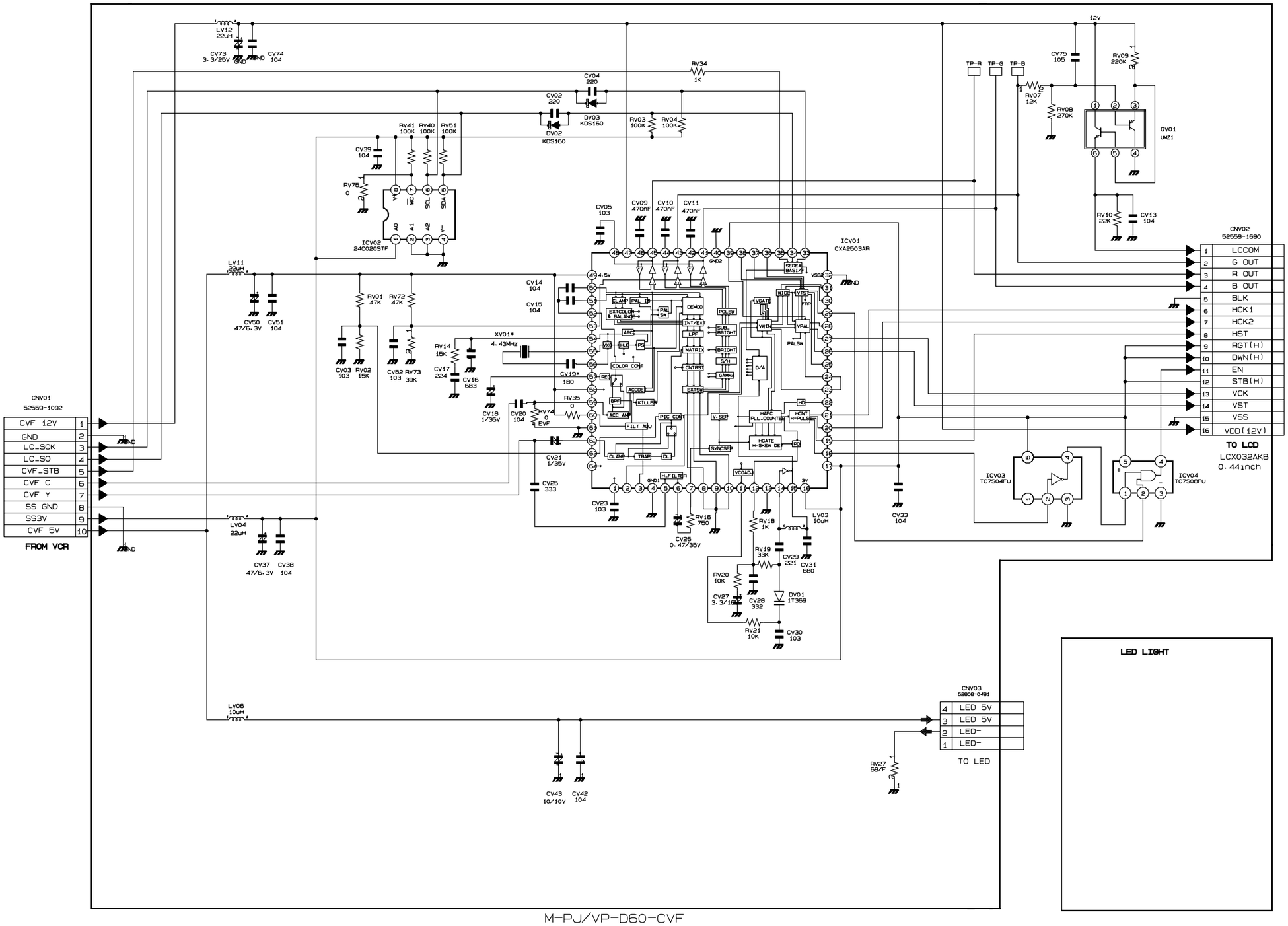
9-7 Rear


PS451
R452 02.5
125V/2.5A
J451
DJ-244
DC-JACK
Q456
DTA124EU
3216
R455
3.3
R459
1K/F
Q452
KTA1298
R456
5.6K/F
D451
KDS160
Q454
KRC404
Q451
TPC8303
R451
470K/F
R452
220K/F
R454
1M
Q453
KRC404
VR471
NS-801MF(10KB)
ZOOM VR
R473
470
R472
470
BT451
BAT-TERMINAL
BT452
BAT-TERMINAL
J452*
DJ-111D4
SUPER-JACK
SUPER Option
IC451
TA75S01F
R458
15K/F
R466
0.1ohm
5025
(0.75W)
R457
1K/F
D452
KDS160
Q455
KRC404
R453
100K
SW475
MPU10992MLB1
STBY/LOCK
SW474
TSM155
START/STOP
SW473
TSM151
SNAP/SHUT(D/ZOOM)
SW471
MPU10992MLB1
BATT DET
CN451
80025A-40G2
1 UNREG.B+
2 UNREG.GND
3 UNREG.B+
4 UNREG.GND
5 UNREG.B+
6 UNREG.GND
7 ZOOM LEVEL
8 A/V GND
9 EVER 3V
10 VIDEO OUT
11 JIG CS
12 AUDIO OUT L
13 PB RF
14 JIG SCK
15 HD SW
16 JIG SO
17 JIG DETECT
18 JIG SI
19 STBY/LOCK
20 BATTERY UNREG
21 START/STOP
22 KEY.IN.1
23 KEY.IN.2
24 CHARGE LED
25 S-Y
26 TUNER DET
27 S-C
28 DC-JACK DET
29 LIGHT DET (SNAP/SHUT)
30 C.BATT V DET
31 CURRENT DET
32 CHARGE ON/OFF
33 TRICKLE C.CTL
34 BATT SW DET
35 KEY.IN.3 (TUNER Y)
36 VTR PWR SW
37 PWR OFF DET (TUNER C)
38 CAM PWR SW
39 DC COUPLER DET
40 POWER LED (TUNER A-IN)
FROM/TO CN601
SYSCON/SERVO
CN452
52357-1491
1 JIG SI
2 JIG DET
3 JIG SO
4 SS GND
5 JIG SCK
6 VCR UNREG
7 JIG CS
8 VCR UNREG
9 HD SW
10 AUDIO OUT L
11 PB RF
12 AUDIO OUT R
13 VIDEO OUT
14 A/V GND
FROM/TO
JIG

9-8 CCD

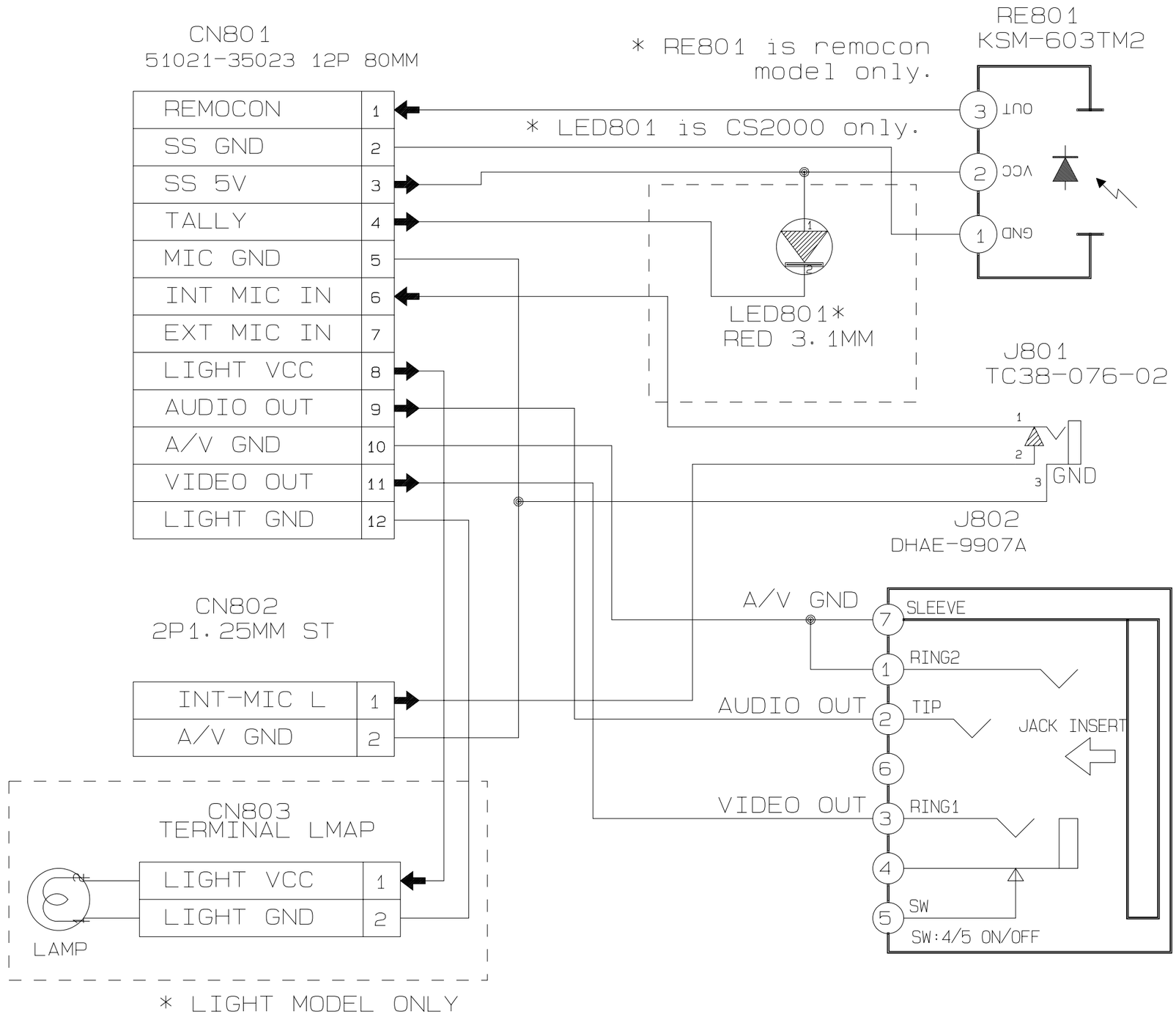

ANALOG SIGNAL LINE: ----------
ICC01
ICX206AK-L
V4 -6.8 1 V4
V3 -6.8 2 V3
V2 -0.3 3 V2
V1 -0.3 4 V1
8.0 5 CGG
0.0 6 GND
9.6 7 VOUT
H2 14 2.3
H1 13 2.8
RG 12 12.3
VL 11 -7.5
SUB 10 6.4
GND 9 0.0
VDD 8 15
RC07 0
RC05 100K
CC06 104
DC01* KDS160
DC02 KDS160
RC08*100K
RC06* 1M
RC01* 1M
CC01 152
CC02 104
CC03 3.3/25V
RC02 100
CC04 104
CC05 3.3/25V
QC01 2SK1070
RC03 3.9K
CNC01
53268-1891
1 V2
3 GND
3 V1
4 CCDOUT
5 V3
6 GND
7 XSUB
8 V4
9 GND
10 GND
11 15V
12 H1
13 -7.5V
14 H2
15 RG
16 GND
17 GND
18 GND
FROM/TO
MAIN CNP01

9-9 CVF

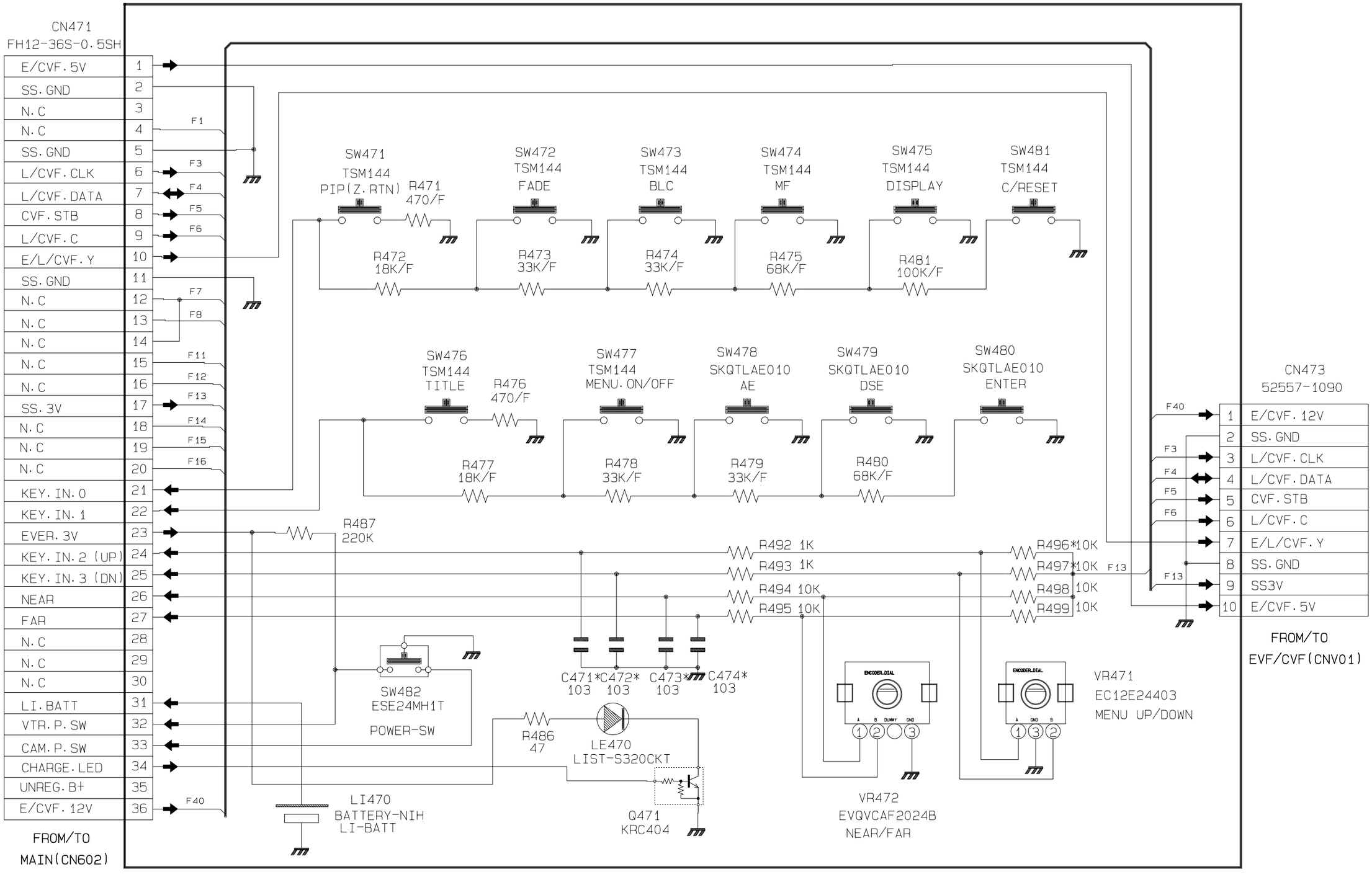


M-PJ/VP-D60-CVF

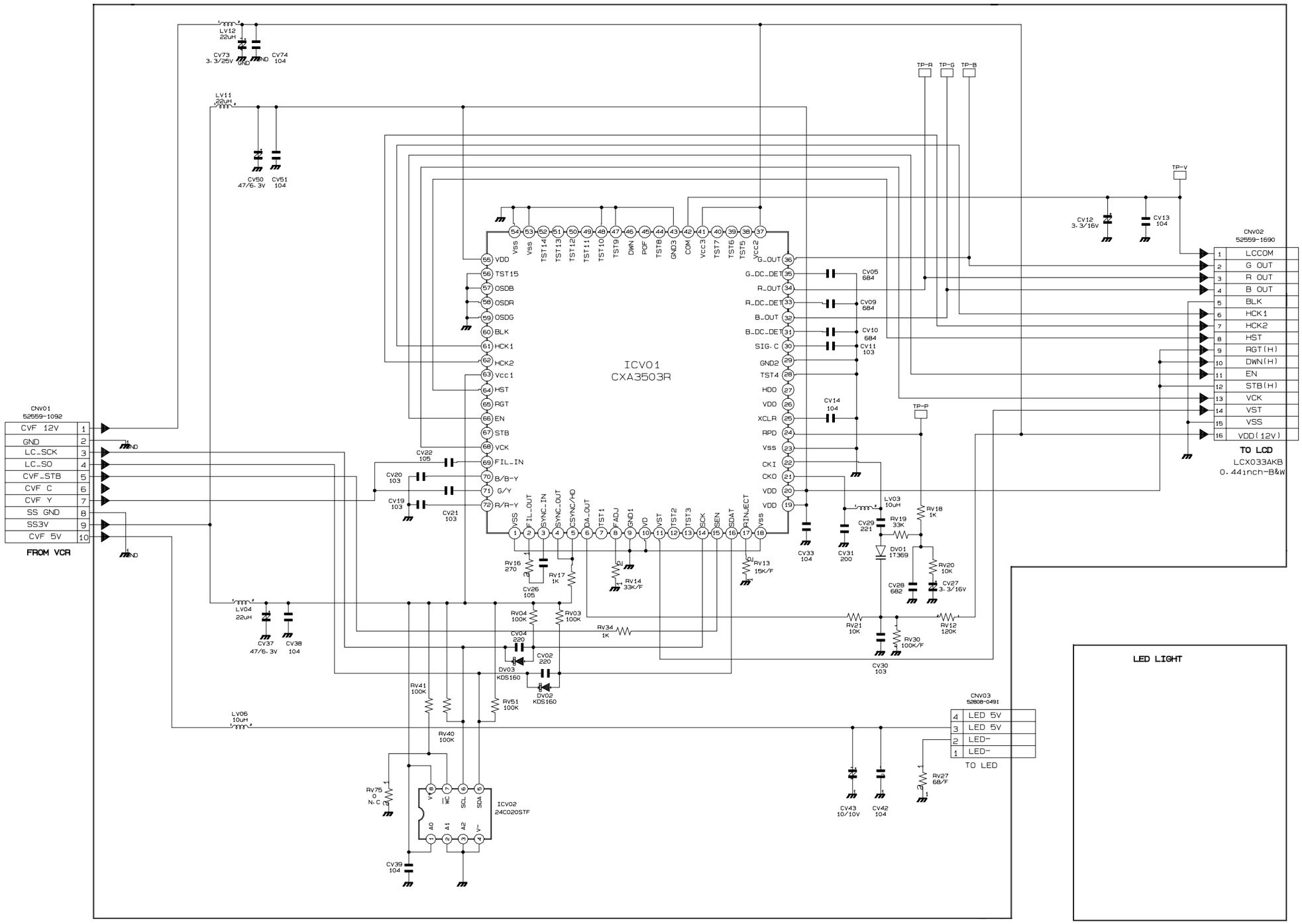
9-10 Front


CN801
51021-35023 12P 80MM
REMOCON 1
SS GND 2
SS 5V 3
TALLY 4
MIC GND 5
INT MIC IN 6
EXT MIC IN 7
LIGHT VCC 8
AUDIO OUT 9
A/V GND 10
VIDEO OUT 11
LIGHT GND 12
* RE801 is remocon model only.
RE801
KSM-603TM2
OUT 3
VCC 2
GND 1
* LED801 is CS2000 only.
LED801*
RED 3.1MM
J801
TC38-076-02
1
2
3 GND
J802
DHAE-9907A
A/V GND
AUDIO OUT
VIDEO OUT
7 SLEEVE
1 RING2
2 TIP
6
3 RING1
4
5 SW
JACK INSERT
SW:4/5 ON/OFF
CN802
2P1.25MM ST
INT-MIC L 1
A/V GND 2
CN803
TERMINAL LMAP
LIGHT VCC 1
LIGHT GND 2
LAMP
* LIGHT MODEL ONLY

9-11 Function

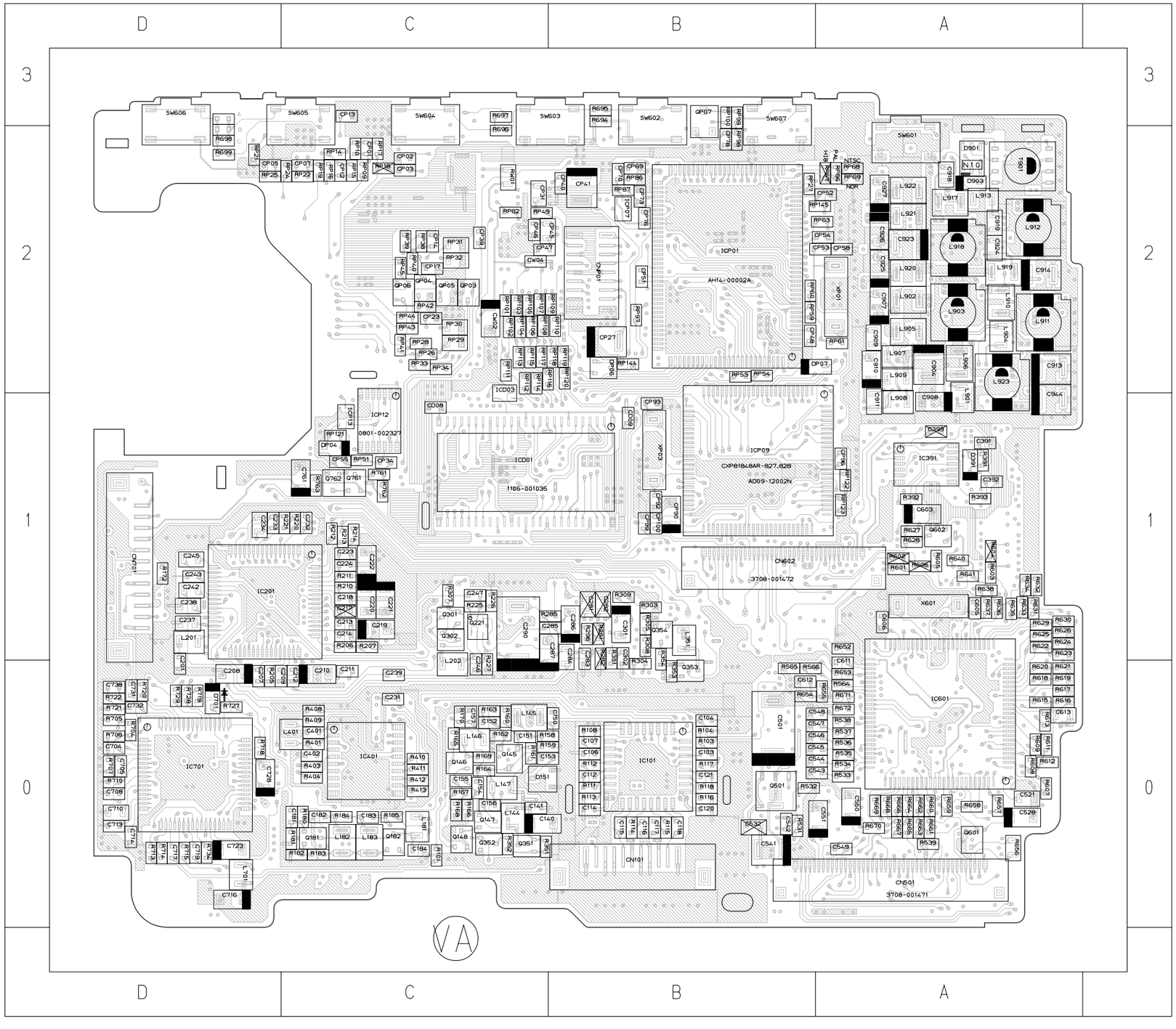


9-12 EVF


ICV01
CXA3503R
CNV01
52559-1092
CVF 12V
GND
LC_SCK
LC_SO
CVF_STB
CVF C
CVF Y
SS GND
SS3V
CVF 5V
FROM VCR
CNV02
52559-1690
LCCOM
G OUT
R OUT
B OUT
BLK
HCK1
HCK2
HST
RGT(H)
DWN(H)
EN
STB(H)
VCK
VST
VSS
VDD(12V)
TO LCD
LCX033AKB
0.44inch-B&W
CNV03
52808-0491
LED 5V
LED 5V
LED-
LED-
TO LED
LED LIGHT
ICV02
24C020STF
TP-R
TP-G
TP-B
TP-V
TP-P

MEMO

7-1 Main PCB (Normal) (Component Side)



SW601 (A2)
SW602 (B2)
SW603 (B2)
SW604 (C2)
SW605 (C2)
SW606 (D2)
SW607 (B2)

T901 (A2)

X601 (A1)
XP01 (A2)
XP03 (B1)

*** CHIP ***

L144 (C0)
L145 (C0)
L146 (C0)
L147 (C0)
L181 (C0)
L182 (C0)
L183 (C0)
L201 (D1)
L202 (C0)
L351 (B1)
L401 (C0)
L701 (D0)
L901 (A1)
L902 (A2)
L903 (A2)
L904 (A2)
L905 (A2)
L906 (A2)
L907 (A2)
L908 (A1)
L909 (A2)
L910 (A2)
L911 (A2)
L912 (A2)
L913 (A2)
L917 (A2)
L918 (A2)
L919 (A2)
L920 (A2)
L921 (A2)
L922 (A2)
L923 (A2)

*** IC&WAFER ***

CN101 (B0)
CN501 (A0)
CN602 (B1)
CN701 (D1)
CNP01 (B2)

IC101 (B0)
IC201 (D1)
IC391 (A1)
IC401 (C0)
IC601 (A0)
IC701 (D0)
ICD01 (C1)
ICD03 (C1)
ICP01 (B2)
ICP07 (B2)
ICP09 (B1)
ICP12 (C1)
ICP13 (C1)

*** TR ***

Q145 (C0)
Q146 (C0)
Q147 (C0)
Q148 (C0)
Q181 (C0)
Q182 (C0)
Q221 (C1)
Q301 (C1)
Q302 (C1)
Q351 (C0)
Q352 (C0)
Q353 (B0)
Q354 (B1)
Q501 (B0)
Q601 (A0)
Q602 (A1)
Q761 (C1)
Q762 (C1)
QP03 (C2)
QP04 (C2)
QP05 (C2)
QP06 (C2)
QP07 (B3)

*** DIODE ***

D151 (C0)
D391 (A1)
D701 (D0)
D901 (A2)
D903 (A2)
DP04 (C1)
DP06 (B2)
DP07 (A2)

CP99 (B1)
CP100 (B1)
CW02 (C2)
CW04 (C2)

CP07 (C2)
CP12 (C2)
CP13 (C3)
CP14 (C2)
CP17 (C2)
CP23 (C2)
CP27 (B2)
CP31 (C2)
CP34 (C1)
CP39 (C2)
CP40 (B2)
CP41 (B2)
CP45 (B2)
CP46 (C2)
CP47 (C2)
CP48 (B2)
CP51 (B2)
CP52 (A2)
CP53 (A2)
CP54 (A2)
CP55 (C1)
CP57 (B2)
CP58 (A2)
CP69 (B2)
CP70 (B2)
CP73 (B2)
CP76 (B2)
CP78 (B2)
CP90 (B1)
CP92 (B1)
CP93 (B1)
CP96 (A1)

C714 (D0)
C716 (D0)
C717 (D0)
C719 (D0)
C723 (D0)
C728 (D0)
C731 (D0)
C732 (D0)
C738 (D0)
C761 (C1)
C904 (A2)
C907 (A2)
C908 (A1)
C909 (A2)
C910 (A2)
C911 (A1)
C913 (A2)
C914 (A2)
C918 (A2)
C919 (A2)
C923 (A2)
C924 (A2)
C925 (A2)
C926 (A2)
C927 (A2)
C944 (A1)
CD08 (C1)
CD09 (B1)
CP01 (C2)
CP02 (C2)
CP03 (C2)
CP05 (D2)

C302 (B1)
C391 (A1)
C392 (A1)
C393 (A1)
C401 (C0)
C402 (C0)
C501 (B0)
C521 (A0)
C528 (A0)
C532 (B0)
C541 (B0)
C542 (B0)
C543 (A0)
C544 (A0)
C545 (A0)
C546 (A0)
C547 (A0)
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C549 (A0)
C550 (A0)
C551 (A0)
C603 (A1)
C605 (A1)
C606 (A1)
C611 (A0)
C612 (B0)
C613 (A0)
C704 (D0)
C705 (D0)
C708 (D0)
C710 (D0)
C713 (D0)

*** CONDENSER ***

C212 (C0)
C213 (C1)
C214 (C1)
C217 (C1)
C218 (C1)
C219 (C1)
C220 (C1)
C221 (C1)
C222 (C1)
C223 (C1)
C224 (C1)
C231 (C0)
C232 (C1)
C233 (D1)
C234 (D1)
C237 (D1)
C238 (D1)
C239 (C0)
C242 (D1)
C243 (D1)
C245 (D1)
C246 (C0)
C247 (C1)
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C282 (B1)
C283 (B1)
C284 (B1)
C285 (B1)
C286 (B1)
C287 (B1)
C290 (C1)
C301 (B1)

C103 (B0)
C104 (B0)
C106 (B0)
C107 (B0)
C112 (B0)
C114 (B0)
C115 (B0)
C116 (B0)
C117 (B0)
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C181 (C0)
C182 (C0)
C183 (C0)
C184 (C0)
C201 (D0)
C207 (D0)
C208 (D0)
C209 (C0)
C210 (C0)
C211 (C0)

RP108 (C2)
RP109 (B2)
RP110 (B2)
RP111 (C2)
RP112 (C2)
RP113 (C2)
RP114 (C2)
RP115 (C2)
RP116 (B2)
RP117 (C2)
RP118 (B2)
RP119 (B2)
RP120 (B2)
RP121 (C1)
RP122 (A1)
RP123 (A1)
RP144 (B2)
RP145 (A2)
RW01 (C2)

*** RESISTOR ***

RP40 (C2)
RP41 (C2)
RP42 (C2)
RP43 (C2)
RP44 (C2)
RP45 (C2)
RP49 (C2)
RP51 (C1)
RP53 (B2)
RP54 (B2)
RP59 (B2)
RP60 (B2)
RP61 (A2)
RP62 (C2)
RP63 (A2)
RP66 (A2)
RP67 (A2)
RP68 (A2)
RP69 (A2)
RP86 (B2)
RP87 (B2)
RP97 (B2)
RP98 (B2)
RP99 (B3)
RP100 (B3)
RP101 (C2)
RP102 (C2)
RP103 (C2)
RP104 (C2)
RP105 (C2)
RP106 (C2)
RP107 (C2)

R721 (D0)
R722 (D0)
R727 (D0)
R728 (D0)
R729 (D0)
R734 (D0)
R761 (C1)
R762 (C1)
R763 (C1)
RP09 (C2)
RP10 (C2)
RP14 (C2)
RP15 (C2)
RP16 (C2)
RP17 (C2)
RP18 (C2)
RP19 (C2)
RP21 (D2)
RP22 (C2)
RP24 (C2)
RP25 (D2)
RP26 (C2)
RP27 (B2)
RP28 (C2)
RP29 (C2)
RP30 (C2)
RP31 (C2)
RP32 (C2)
RP33 (C2)
RP34 (C2)
RP38 (C2)
RP39 (C2)

R658 (A0)
R659 (A0)
R660 (A0)
R661 (A0)
R662 (A0)
R663 (A0)
R664 (A0)
R665 (A0)
R666 (A0)
R667 (A0)
R668 (A0)
R669 (A0)
R670 (A0)
R671 (A0)
R672 (A0)
R694 (B3)
R695 (B3)
R696 (C2)
R697 (C3)
R698 (D2)
R699 (D2)
R704 (D0)
R705 (D0)
R706 (D0)
R707 (D0)
R710 (D0)
R713 (D0)
R714 (D0)
R715 (D0)
R718 (D0)
R719 (D0)
R720 (D0)

R615 (A0)
R616 (A0)
R617 (A0)
R618 (A0)
R619 (A0)
R620 (A0)
R621 (A0)
R622 (A1)
R623 (A1)
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R625 (A1)
R626 (A1)
R627 (A1)
R628 (A1)
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R630 (A1)
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R633 (A1)
R634 (A1)
R635 (A1)
R636 (A1)
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R638 (A1)
R640 (A1)
R641 (A1)
R652 (A1)
R653 (A0)
R654 (B0)
R655 (A0)
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R657 (A0)

R403 (C0)
R404 (C0)
R408 (C0)
R409 (C0)
R410 (C0)
R411 (C0)
R412 (C0)
R413 (C0)
R531 (B0)
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R603 (A1)
R604 (A1)
R605 (A1)
R606 (A1)
R607 (A0)
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R611 (A0)
R612 (A0)
R613 (A0)

R205 (D0)
R206 (C1)
R207 (C1)
R210 (C1)
R211 (C1)
R212 (C1)
R213 (C1)
R214 (C1)
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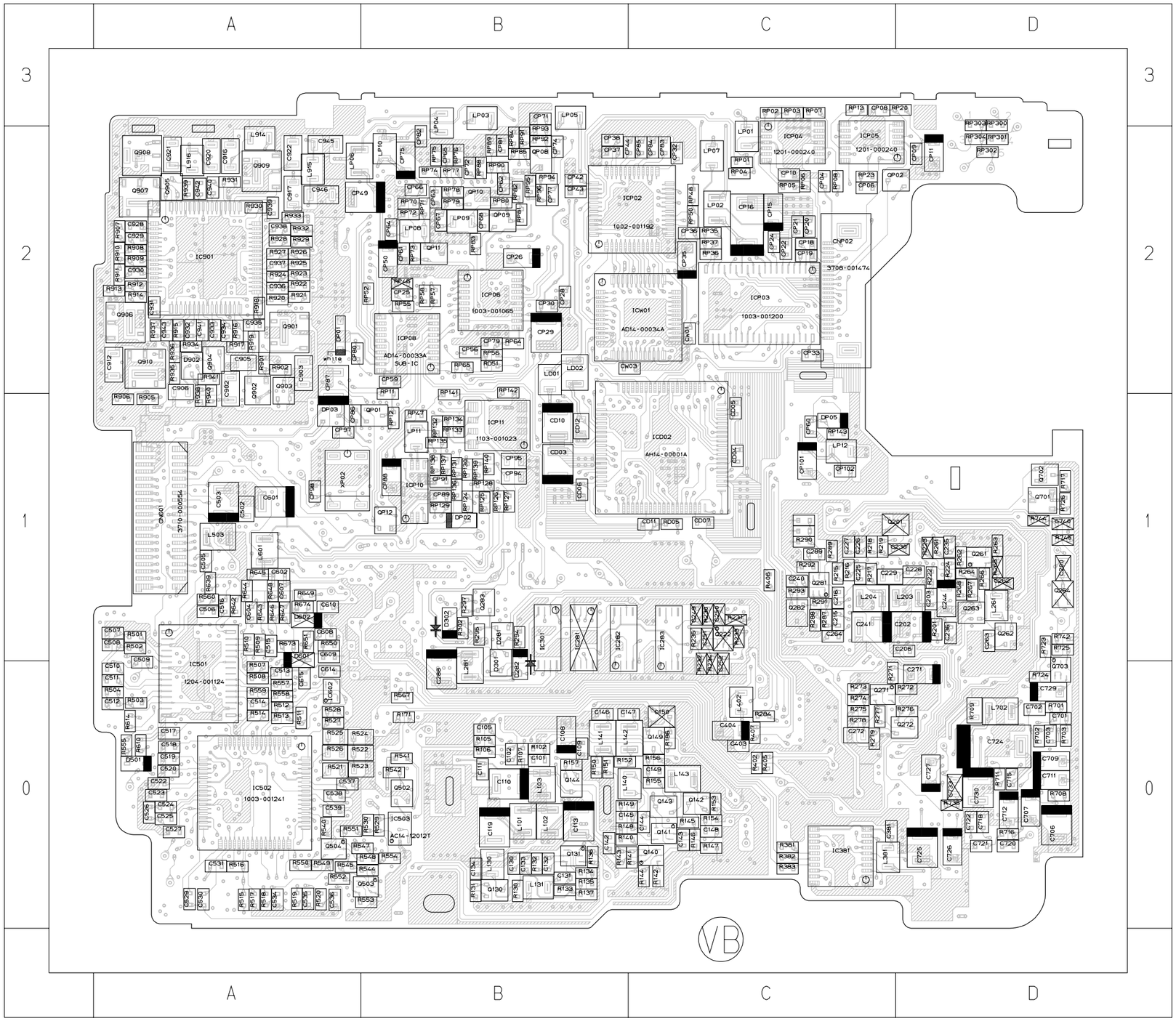
R221 (C1)
R225 (C1)
R226 (C1)
R227 (C0)
R281 (B1)
R282 (B1)
R285 (B1)
R296 (B1)
R301 (B1)
R303 (B1)
R304 (B0)
R305 (B1)
R307 (C1)
R308 (B1)
R309 (B1)
R351 (C0)
R352 (C0)
R353 (B0)
R354 (B0)
R391 (A1)
R392 (A1)
R393 (A1)
R401 (C0)

R101 (C0)
R103 (B0)
R104 (B0)
R108 (B0)
R111 (B0)
R112 (B0)
R113 (B0)
R114 (B0)
R115 (B0)
R116 (B0)
R117 (B0)
R118 (B0)
R158 (B0)
R159 (B0)
R160 (C0)
R161 (C0)
R162 (C0)
R163 (C0)
R164 (C0)
R165 (C0)
R166 (C0)
R167 (C0)
R168 (C0)
R169 (C0)
R170 (C0)
R172 (D1)
R180 (C0)
R181 (C0)
R182 (C0)
R183 (C0)
R184 (C0)
R185 (C0)

7-2 Main PCB (Normal) (Conductor Side)



*** RESISTOR ***

R102 (B0)
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R106 (B0)
R107 (B0)
R130 (B0)
R131 (B0)
R132 (B0)
R133 (B0)
R134 (B0)
R135 (B0)
R136 (B0)
R137 (B0)
R140 (B0)
R141 (C0)
R142 (C0)
R143 (B0)
R144 (C0)
R145 (C0)
R146 (C0)
R147 (C0)
R148 (B0)
R149 (B0)
R150 (B0)
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R153 (C0)
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R157 (B0)
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R218 (C1)
R219 (C1)
R222 (D1)
R223 (D1)
R224 (D1)
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R231 (C1)
R232 (C0)
R233 (C1)
R234 (C0)
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R262 (D1)
R263 (D1)
R264 (D1)
R265 (D1)
R266 (D1)
R267 (D1)
R268 (D1)
R271 (C0)
R272 (D0)
R273 (C0)
R274 (C0)
R275 (C0)
R276 (D0)
R277 (C0)
R278 (C0)
R279 (C0)
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R287 (C1)
R288 (C1)
R289 (C1)
R290 (C1)
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R292 (C1)
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R294 (B1)
R295 (B1)
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R383 (C0)
R402 (C0)
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R501 (A1)
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R708 (D0)
R709 (D0)
R711 (D0)
R716 (D0)
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R724 (D0)
R725 (D1)
R726 (D1)
R735 (D0)
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R744 (D1)
R745 (D1)
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R911 (A2)
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R914 (A2)
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R917 (A2)
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R927 (A2)
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R932 (A2)
R933 (A2)
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R935 (A2)
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R938 (A1)
R939 (A2)
R940 (A1)
R941 (A2)
RD05 (C1)
RD51 (B2)
RP01 (C2)
RP02 (C3)
RP03 (C3)
RP04 (C2)
RP05 (C2)
RP06 (C2)
RP07 (C3)
RP08 (C2)
RP11 (B1)
RP12 (B1)
RP124 (B1)
RP125 (B1)
RP126 (B1)
RP127 (B1)
RP128 (B1)
RP129 (B1)
RP13 (C3)
RP130 (B1)
RP131 (B1)
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RP133 (B1)
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RP135 (B1)
RP136 (B1)
RP137 (B1)
RP138 (B1)
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RP142 (B1)
RP143 (C1)
RP20 (D3)
RP23 (C2)
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RP301 (D2)
RP302 (D2)
RP303 (D2)
RP304 (D2)
RP35 (C2)
RP36 (C2)
RP37 (C2)
RP46 (B2)
RP47 (B1)
RP48 (C2)
RP50 (C2)
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RP94 (B2)
RP95 (B2)
RP96 (B2)

*** CHIP ***

L101 (B0)
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L103 (B0)
L130 (B0)
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L140 (B0)
L141 (B0)
L142 (B0)
L143 (C0)
L203 (D1)
L204 (C1)
L261 (D1)
L281 (B0)
L381 (C0)
L402 (C0)
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L702 (D0)
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L915 (A2)
L916 (A2)
LD01 (B2)
LD02 (B2)
LP01 (C2)
LP02 (C2)
LP03 (B3)
LP04 (B3)
LP05 (B3)
LP06 (A2)
LP07 (C2)
LP08 (B2)
LP09 (B2)
LP10 (B2)
LP11 (B1)
LP12 (C1)

XP02 (A1)

*** CONDENSER ***

C101 (B0)
C102 (B0)
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C108 (B0)
C109 (B0)
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C263 (D1)
C264 (C1)
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C288 (B0)
C289 (C1)
C381 (C0)
C403 (C0)
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C921 (A2)
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C931 (A2)
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CD03 (B1)
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CD06 (B1)
CD07 (C1)
CD10 (B1)
CD11 (C1)
CD12 (B1)
CP04 (C2)
CP06 (C2)
CP08 (C3)
CP09 (D2)
CP10 (C2)
CP101 (C1)
CP102 (C1)
CP11 (D2)
CP15 (C2)
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CP18 (C2)
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CP22 (C2)
CP24 (C2)
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CP32 (C2)
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CP37 (B2)
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CP62 (B2)
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CP86 (A1)
CP87 (A2)
CP88 (B1)
CP89 (B1)
CP91 (B1)
CP94 (B1)
CP95 (B1)
CP97 (A1)
CP98 (A1)
CW01 (C2)
CW03 (B2)

*** DIODE ***

D281 (B1)
D282 (B0)
D301 (B0)
D302 (B1)
D501 (A0)
D601 (A0)
D602 (A1)
D902 (A2)
DP01 (A2)
DP02 (B1)
DP03 (A1)
DP05 (C1)

*** TR ***

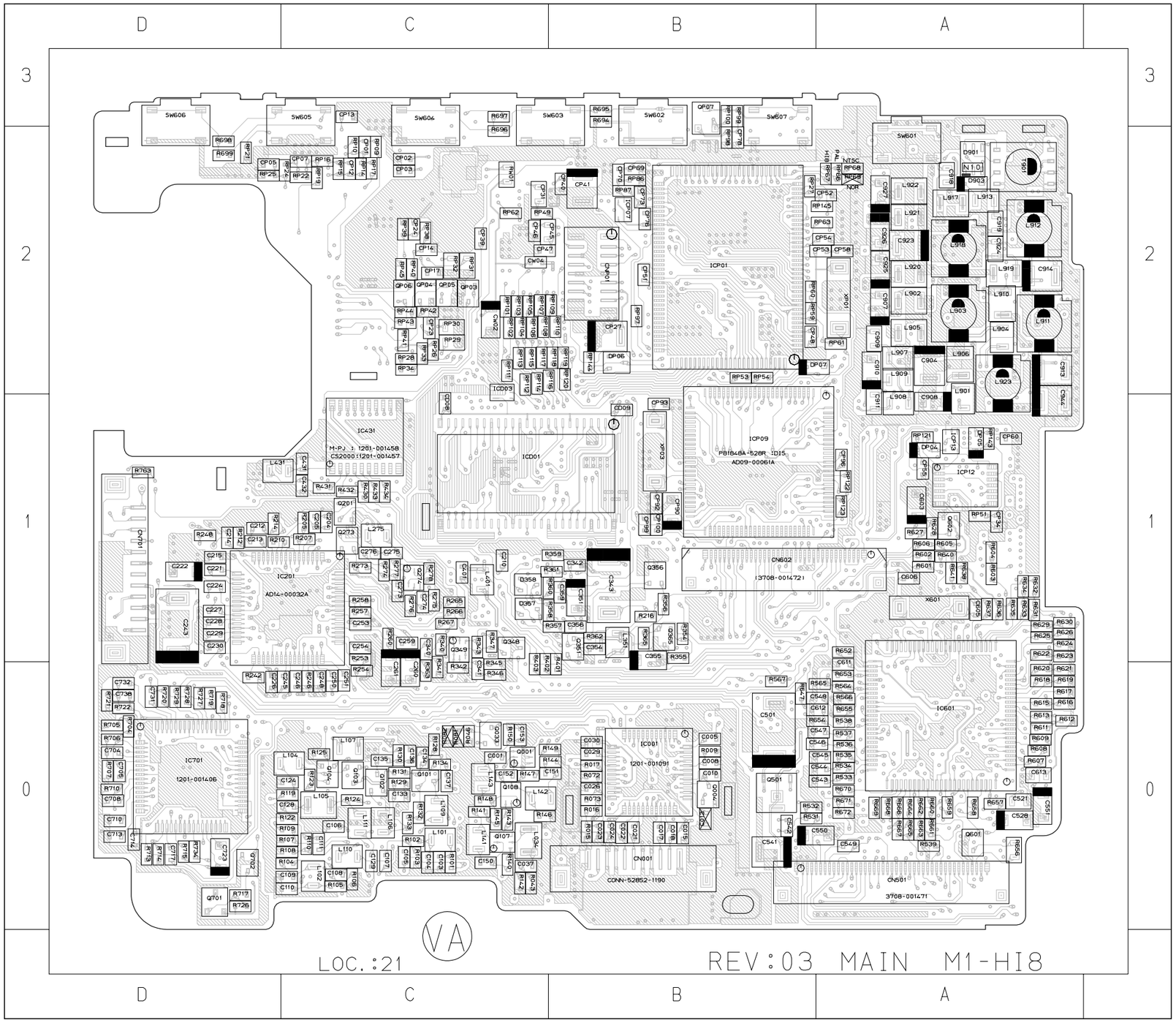
Q130 (B0)
Q131 (B0)
Q140 (C0)
Q141 (C0)
Q142 (C0)
Q143 (C0)
Q144 (B0)
Q149 (C0)
Q150 (C0)
Q201 (C1)
Q222 (C1)
Q261 (D1)
Q262 (D1)
Q263 (D1)
Q264 (D1)
Q271 (C0)
Q272 (D0)
Q281 (C1)
Q282 (C1)
Q283 (B1)
Q502 (B0)
Q503 (B0)
Q504 (A0)
Q701 (D1)
Q702 (D1)
Q703 (D0)
Q901 (A2)
Q902 (A2)
Q903 (A2)
Q904 (A2)
Q905 (A2)
Q906 (A2)
Q907 (A2)
Q908 (A2)
Q909 (A2)
Q910 (A2)
QP01 (B1)
QP02 (C2)
QP08 (B2)
QP09 (B2)
QP10 (B2)
QP11 (B2)
QP12 (B1)

*** IC&WAFER ***

CN601 (A1)
CNP02 (C2)

IC281 (B1)
IC282 (B1)
IC283 (C1)
IC301 (B1)
IC381 (C0)
IC501 (A0)
IC502 (A0)
IC503 (B0)
IC602 (A0)
IC901 (A2)
ICD02 (C1)
ICP02 (C2)
ICP03 (C2)
ICP04 (C2)
ICP05 (C2)
ICP06 (B2)
ICP08 (B2)
ICP10 (B1)
ICP11 (B1)
ICW01 (C2)

7-3 Main PCB (Hi8) (Component Side)



L919 (A2)
L920 (A2)
L921 (A2)
L922 (A2)
L923 (A2)

SW601 (A2)
SW602 (B3)
SW603 (B3)
SW604 (C3)
SW605 (C3)
SW606 (D3)
SW607 (B3)

T901 (A2)

X601 (A1)
XP01 (A2)
XP03 (B1)

*** COIL ***

L034 (C0)
L101 (C0)
L102 (C0)
L104 (C0)
L105 (C0)
L106 (C0)
L107 (C0)
L109 (C0)
L110 (C0)
L111 (C0)
L141 (C0)
L142 (C0)
L143 (C0)
L275 (C1)
L351 (B1)
L401 (C1)
L431 (D1)
L901 (A1)
L902 (A2)
L903 (A2)
L904 (A2)
L905 (A2)
L906 (A2)
L907 (A2)
L908 (A1)
L909 (A2)
L910 (A2)
L911 (A2)
L912 (A2)
L913 (A2)
L917 (A2)
L918 (A2)

*** IC&WAFER ***

CN001 (B0)
CN501 (A0)
CN602 (B1)
CN701 (D1)
CNP01 (B2)

IC001 (B0)
IC201 (C1)
IC431 (C1)
IC601 (A0)
IC701 (D0)
ICD01 (C1)
ICD03 (C2)
ICP01 (B2)
ICP07 (B2)
ICP09 (B1)
ICP12 (A1)
ICP13 (A1)

*** TR ***

Q001 (C0)
Q004 (B0)
Q033 (C0)
Q101 (C0)
Q102 (C0)
Q103 (C0)
Q104 (C0)
Q107 (C0)
Q108 (C0)
Q201 (C1)
Q273 (C1)
Q274 (C1)
Q348 (C1)
Q349 (C1)
Q351 (B1)
Q356 (B1)
Q365 (B1)
Q501 (B0)
Q601 (A0)
Q602 (A1)
Q701 (D0)
Q702 (D0)
QP03 (C2)
QP04 (C2)
QP05 (C2)
QP06 (C2)
QP07 (B3)

*** DIODE ***

D357 (C1)
D358 (C1)
D901 (A2)
D903 (A2)
DP04 (A1)
DP05 (A1)
DP06 (B2)
DP07 (B2)

CP73 (B2)
CP76 (B2)
CP78 (B2)
CP90 (B1)
CP92 (B1)
CP93 (B1)
CP96 (A1)
CP99 (B1)
CP100 (B1)
CW02 (C2)
CW04 (C2)

CD09 (B1)
CP01 (C2)
CP02 (C2)
CP03 (C2)
CP05 (D2)
CP07 (C2)
CP12 (C2)
CP13 (C3)
CP14 (C2)
CP17 (C2)
CP23 (C2)
CP24 (C2)
CP27 (B2)
CP34 (A1)
CP31 (C2)
CP39 (C2)
CP40 (B2)
CP41 (B2)
CP45 (B2)
CP46 (C2)
CP47 (C2)
CP48 (B2)
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CP52 (A2)
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CP54 (A2)
CP55 (A1)
CP57 (B2)
CP58 (A2)
CP60 (A1)
CP69 (B2)
CP70 (B2)

C606 (A1)
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C612 (A0)
C613 (A0)
C704 (D0)
C705 (D0)
C708 (D0)
C710 (D0)
C713 (D0)
C714 (D0)
C717 (D0)
C723 (D0)
C731 (D0)
C732 (D0)
C738 (D0)
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C910 (A2)
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C913 (A2)
C914 (A2)
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C919 (A2)
C923 (A2)
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C925 (A2)
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C927 (A2)
C944 (A1)
CD08 (C1)

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C276 (C1)
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C343 (B1)
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C354 (B1)
C355 (B1)
C356 (B1)
C359 (B1)
C401 (C1)
C431 (C1)
C432 (C1)
C501 (B0)
C521 (A0)
C528 (A0)
C541 (B0)
C542 (B0)
C543 (A0)
C544 (A0)
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C546 (A0)
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C551 (A0)
C603 (A1)
C605 (A1)

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C213 (D1)
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C246 (C0)
C248 (C0)
C250 (C0)
C251 (C0)
C253 (C1)
C254 (C1)
C255 (D1)
C259 (C1)
C260 (C0)
C261 (C0)

*** CONDENSER ***

C001 (C0)
C005 (B0)
C008 (B0)
C010 (B0)
C013 (B0)
C015 (B0)
C017 (B0)
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C021 (B0)
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C023 (B0)
C024 (B0)
C026 (B0)
C029 (B0)
C030 (B0)
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C108 (C0)
C109 (C0)
C110 (C0)
C111 (C0)
C124 (C0)
C128 (C0)
C129 (C0)
C133 (C0)
C134 (C0)
C135 (C0)
C136 (C0)

RP119 (B2)
RP120 (B2)
RP121 (A1)
RP122 (A1)
RP123 (A1)
RP143 (A1)
RP144 (B2)
RP145 (A2)
RW01 (C2)

*** RESISTOR ***

RP60 (B2)
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RP62 (C2)
RP63 (A2)
RP66 (A2)
RP67 (A2)
RP68 (A2)
RP69 (A2)
RP86 (B2)
RP87 (B2)
RP97 (B2)
RP98 (B2)
RP99 (B3)
RP100 (B3)
RP101 (C2)
RP102 (C2)
RP103 (C2)
RP104 (C2)
RP105 (C2)
RP106 (C2)
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RP108 (C2)
RP109 (B2)
RP110 (B2)
RP111 (C2)
RP112 (C2)
RP113 (C2)
RP114 (C2)
RP115 (C2)
RP116 (B2)
RP117 (C2)
RP118 (B2)

RP10 (C2)
RP14 (C2)
RP15 (C2)
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R641 (A1)
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R623 (A1)
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R625 (A1)

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R147 (C0)
R148 (C0)
R149 (B0)
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R216 (B1)
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R123 (C0)
R124 (C0)
R125 (C0)
R128 (C0)
R129 (C0)
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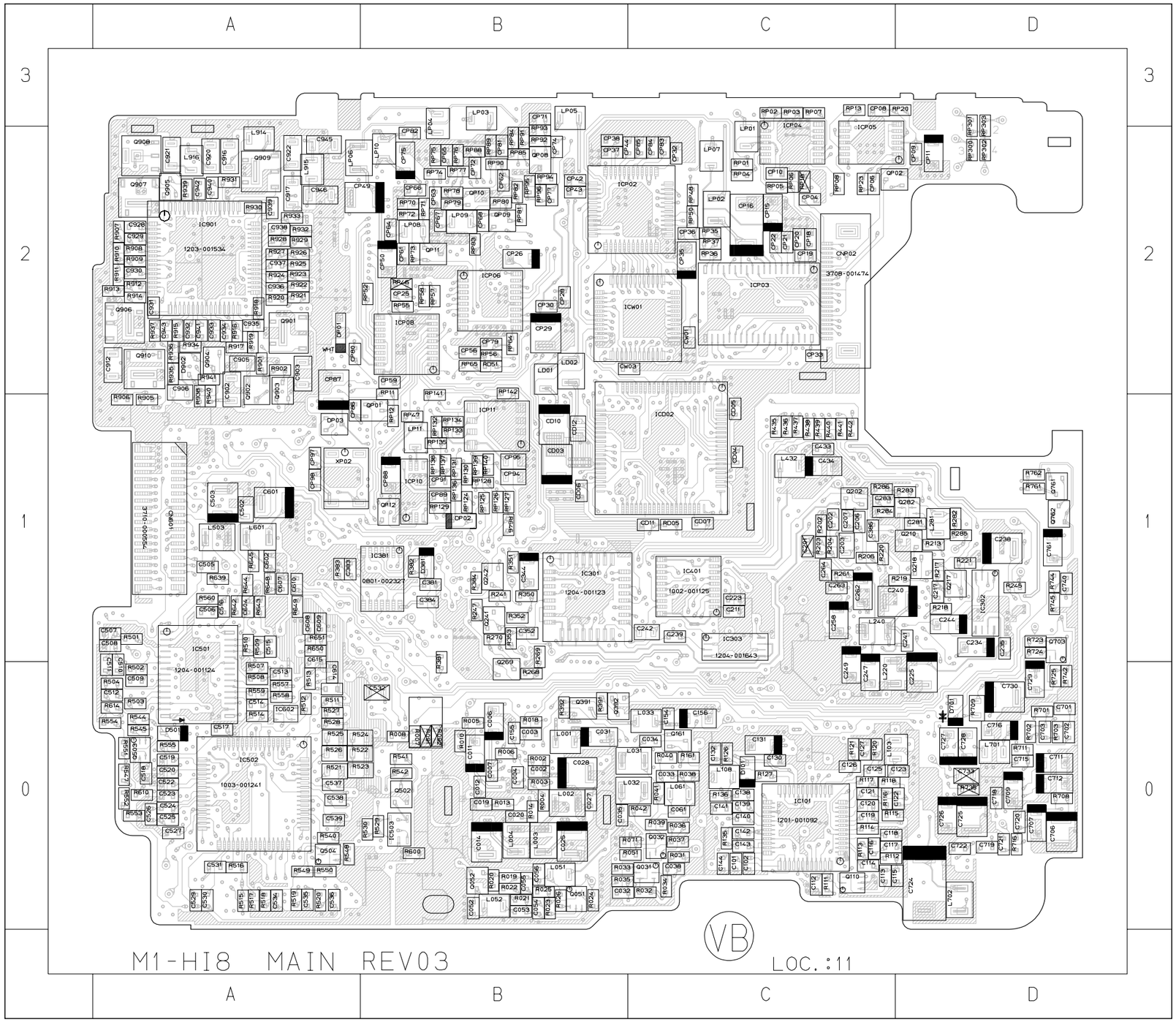
R132 (C0)
R133 (C0)
R134 (C0)

7-4 Main PCB (Hi8) (Conductor Side)



*** RESISTOR ***

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R014 (B0)
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R033 (B0)
R034 (C0)
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R037 (C0)
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R039 (C0)
R040 (C0)
R041 (C0)
R042 (C0)
R051 (C0)
R071 (C0)
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R112 (C0)
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R115 (C0)
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R121 (C0)
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R220 (C1)
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R241 (B1)
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R283 (D1)
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RP93 (B2)
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RP95 (B2)
RP96 (B2)

*** IC&WAFER ***

CN601 (A1)
CNP02 (C2)
IC101 (C0)
IC301 (B1)
IC302 (D1)
IC303 (C1)
IC381 (B1)
IC401 (C1)
IC501 (A0)
IC502 (A0)
IC503 (B0)
IC602 (A0)
IC901 (A2)
ICD02 (C1)
ICP02 (C2)
ICP03 (C2)
ICP04 (C2)
ICP05 (C2)
ICP06 (B2)
ICP08 (B2)
ICP10 (B1)
ICP11 (B1)
ICW01 (C2)

*** COIL ***

L001 (B0)
L002 (B0)
L003 (B0)
L004 (B0)
L031 (C0)
L032 (C0)
L033 (C0)
L051 (B0)
L052 (B0)
L061 (C0)
L103 (C0)
L108 (C0)
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L240 (C1)
L281 (D1)
L432 (C1)
L503 (A1)
L601 (A1)
L701 (D0)
L702 (D0)
L914 (A2)
L915 (A2)
L916 (A2)
LD01 (B2)
LD02 (B2)
LP01 (C2)
LP02 (C2)
LP03 (B3)
LP04 (B3)
LP05 (B3)
LP06 (A2)
LP07 (C2)
LP08 (B2)
LP09 (B2)
LP10 (B2)
LP11 (B1)
XP02 (A1)

*** CONDENSER ***

C002 (B0)
C003 (B0)
C004 (B0)
C006 (B0)
C007 (B0)
C011 (B0)
C012 (B0)
C014 (B0)
C019 (B0)
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C027 (B0)
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CD11 (C1)
CD12 (B1)
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CP79 (B2)
CP80 (A2)
CP81 (B2)
CP82 (B2)
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CP86 (A1)
CP87 (A2)
CP88 (B1)
CP89 (B1)
CP91 (B1)
CP94 (B1)
CP95 (B1)
CP97 (A1)
CP98 (A1)
CW01 (C2)
CW03 (C2)

*** DIODE ***

D101 (C0)
D381 (B1)
D501 (A0)
D701 (D0)
D902 (A2)
DP01 (A2)
DP02 (B1)
DP03 (A1)

*** TR ***

Q031 (C0)
Q032 (C0)
Q051 (B0)
Q052 (B0)
Q110 (C0)
Q161 (C0)
Q202 (C1)
Q210 (D1)
Q217 (D1)
Q218 (D1)
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Q242 (B1)
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Q762 (D1)
Q901 (A2)
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Q903 (A2)
Q904 (A2)
Q905 (A2)
Q906 (A2)
Q907 (A2)
Q908 (A2)
Q909 (A2)
Q910 (A2)
QP01 (B1)
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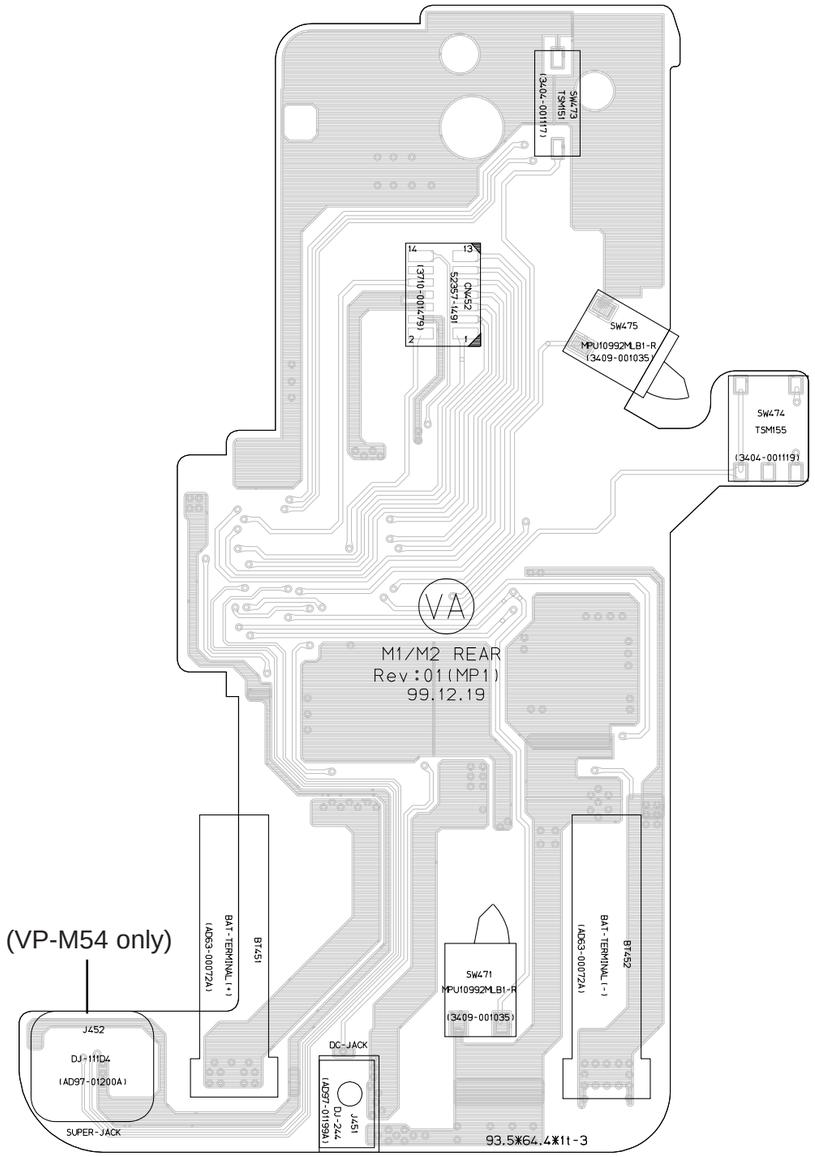
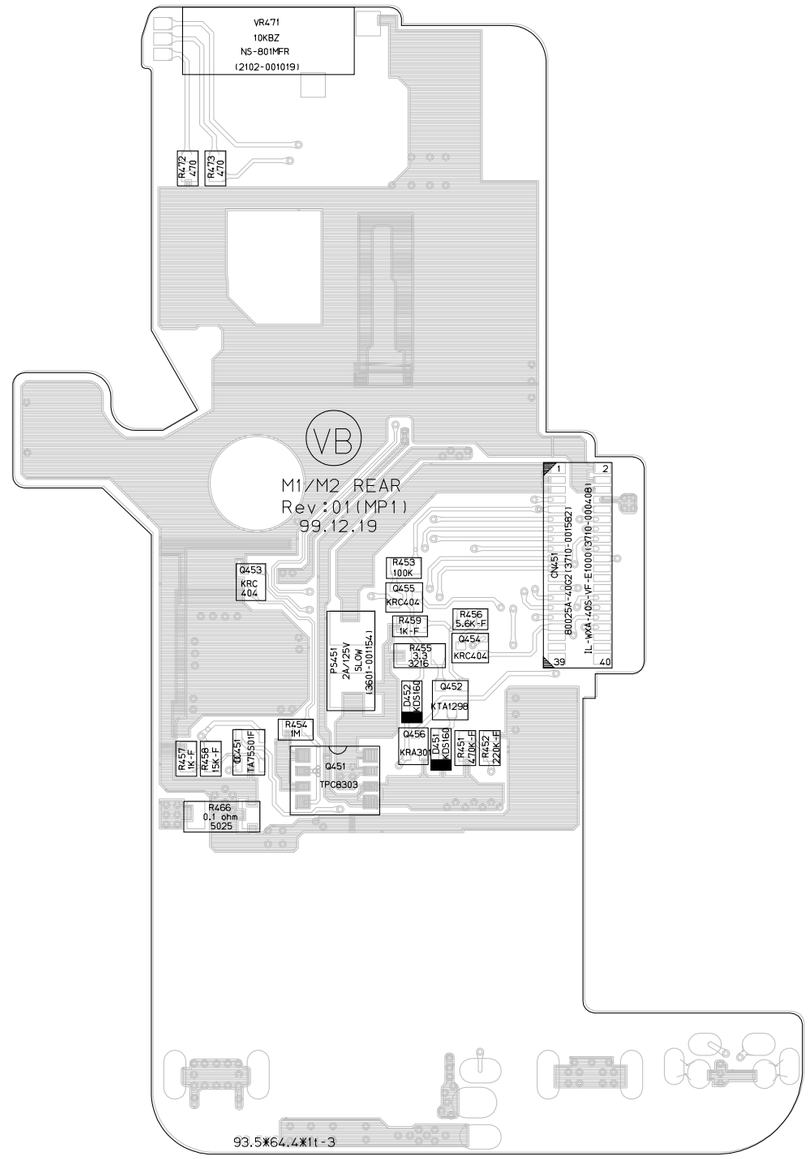
QP08 (B2)
QP09 (B2)
QP10 (B2)
QP11 (B2)
QP12 (B1)

7-5 Rear PCB

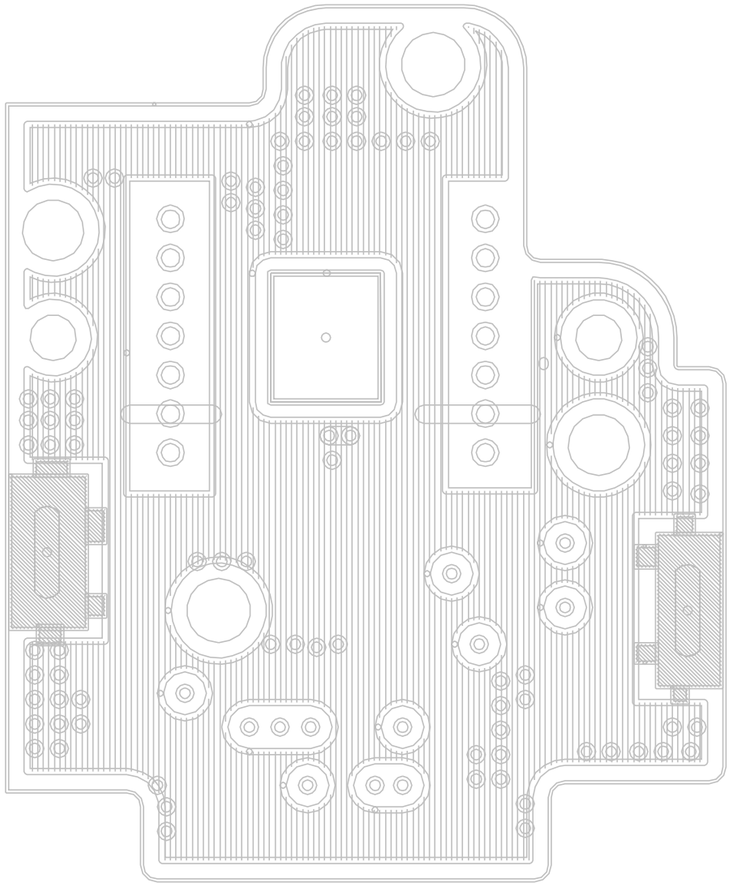


(Component Side)

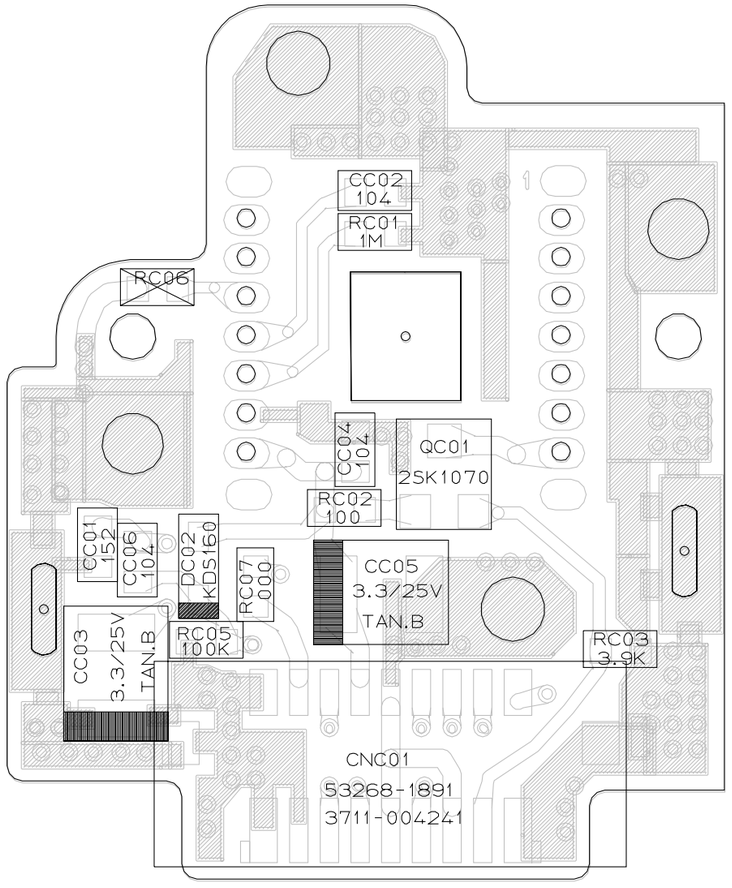


(Conductor Side)

7-6 CCD PCB

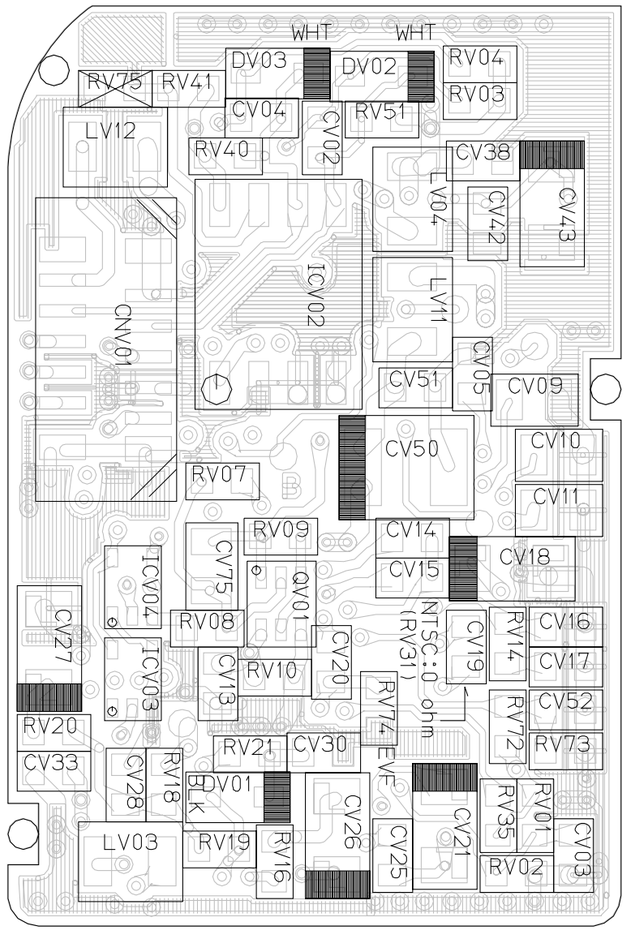


(Component Side)

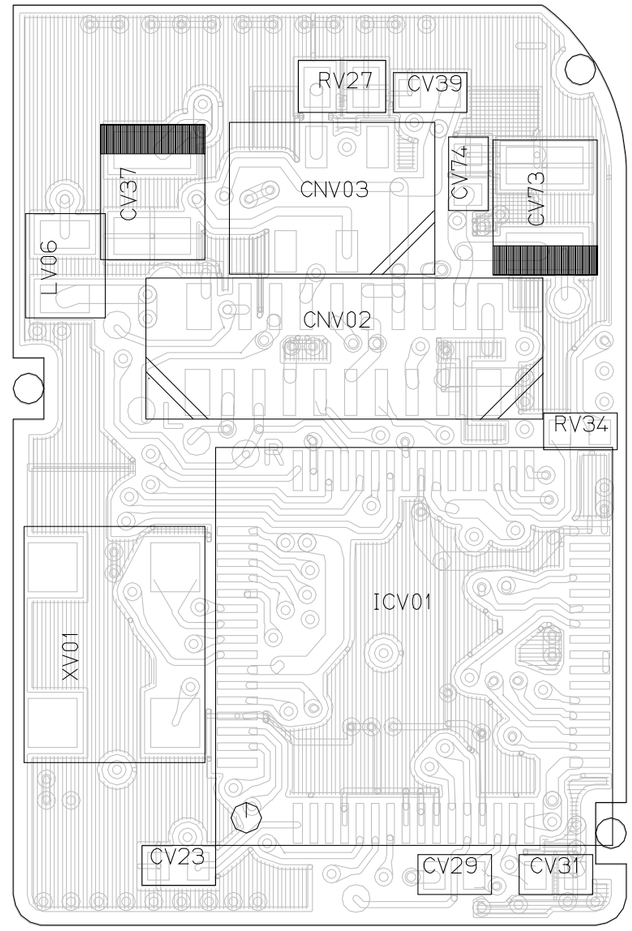


(Conductor Side)

7-7 CVF PCB

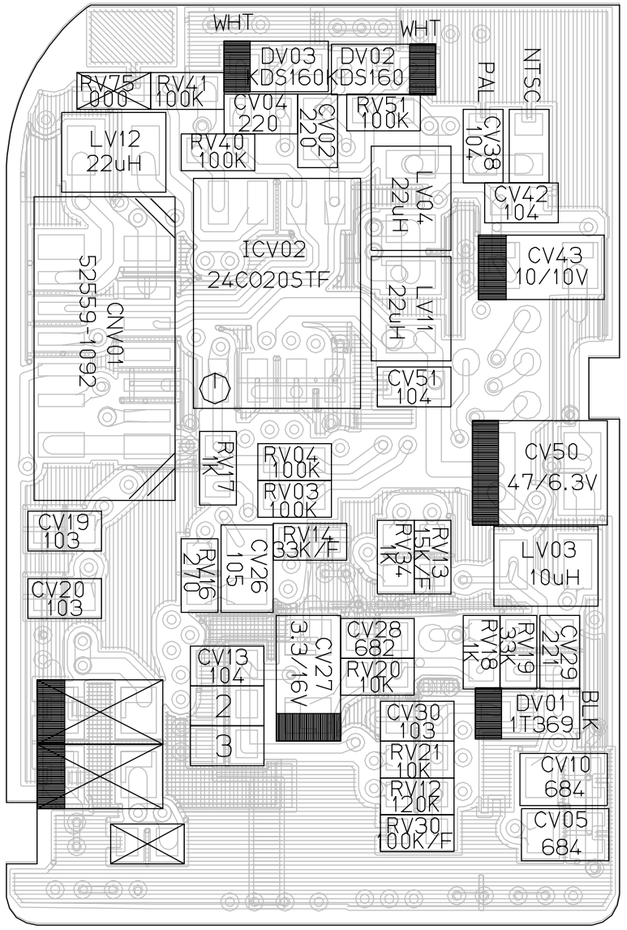


(Component Side)

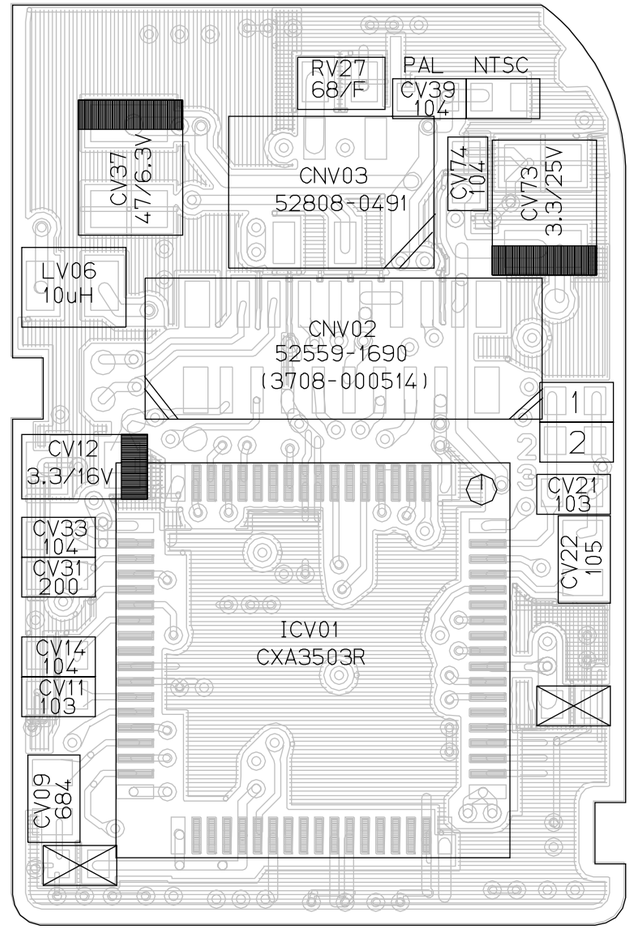


(Conductor Side)

7-8 EVF PCB

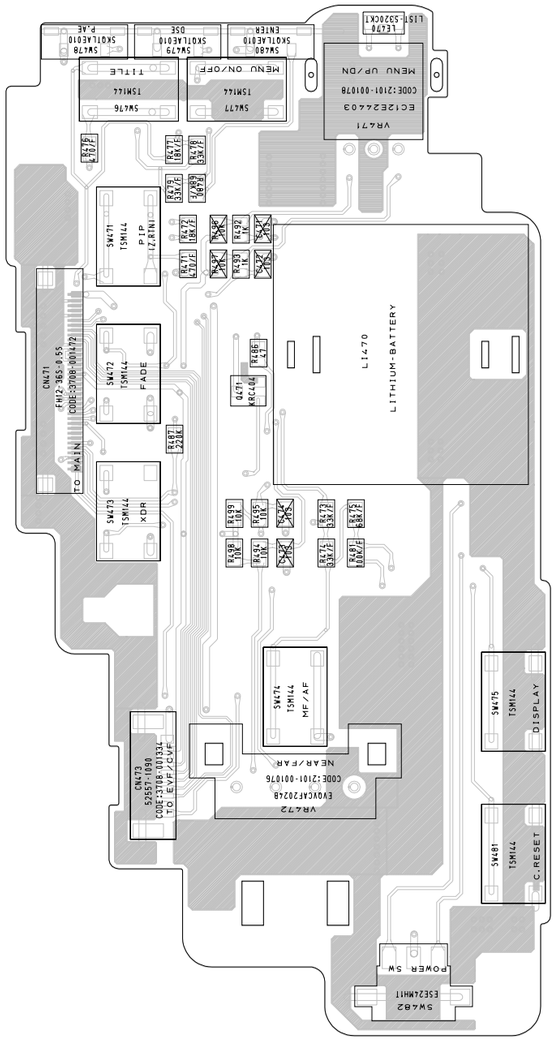


(Component Side)

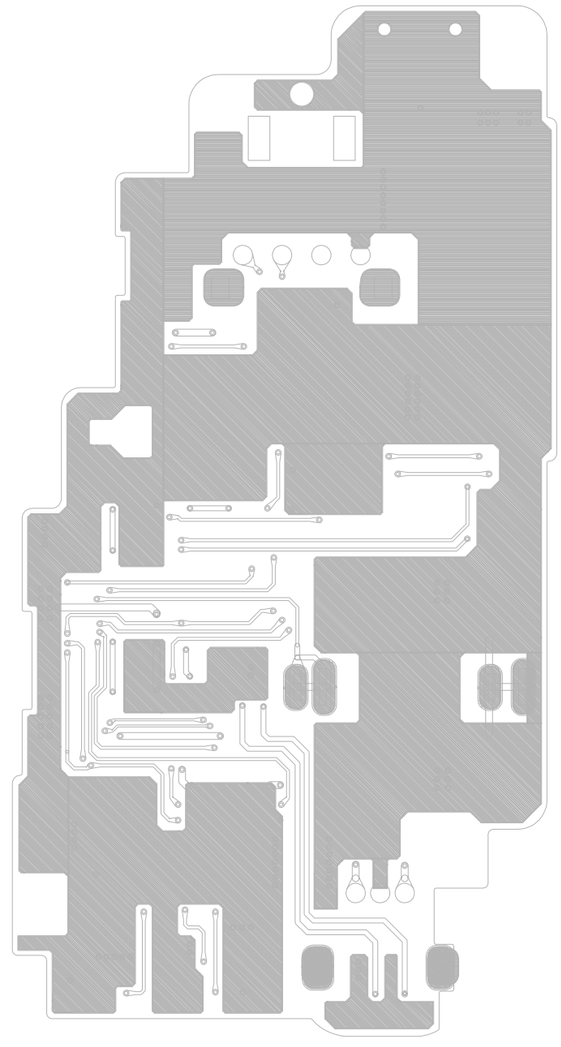


(Conductor Side)

7-9 Function PCB

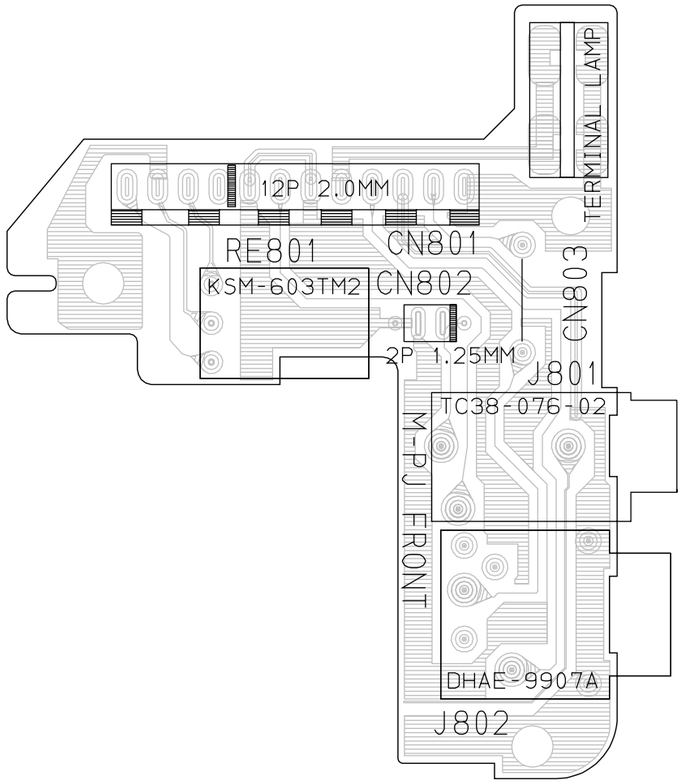


(Component Side)



(Conductor Side)

7-10 Front PCB



MEMO

Loc. No	Part No	Desc & Spec	Remark
C127	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C128	2203-001640	C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160	Hi8
C129	2203-001083	C-CERAMIC,CHIP;0.005nF,0.1pF,50V,NP0,TP,	Hi8
C130	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C131	2203-001686	C-CERAMIC,CHIP;0.075nF,5%,50V,NP0,TP,160	NOR
C131	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	Hi8
C132	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C132	2203-000357	C-CERAMIC,CHIP;0.15nF,5%,50V,NP0,TP,1608	NOR
C133	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	NOR
C133	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	Hi8
C134	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	NOR
C134	2203-000315	C-CERAMIC,CHIP;0.12nF,5%,50V,NP0,TP,1608	Hi8
C135	2203-000998	C-CERAMIC,CHIP;0.047nF,5%,50V,NP0,TP,160	Hi8
C136	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	Hi8
C137	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C138	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C139	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	Hi8
C140	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C140	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	NOR
C141	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C141	2203-001607	C-CERAMIC,CHIP;0.22nF,5%,50V,NP0,TP,1608	Hi8
C142	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C142	2203-001683	C-CERAMIC,CHIP;0.068nF,5%,50V,NP0,TP,160	Hi8
C143	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C143	2203-001113	C-CERAMIC,CHIP;0.062nF,5%,50V,NP0,TP,160	Hi8
C144	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	NOR
C144	2203-001408	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,1608	Hi8
C145	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C146	2203-001113	C-CERAMIC,CHIP;0.062nF,5%,50V,NP0,TP,160	NOR
C147	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	NOR
C148	2203-001408	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,1608	NOR
C149	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	NOR
C150	2203-000604	C-CERAMIC,CHIP;22nF,10%,25V,X7R,TP,1608	NOR
C150	2203-001071	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,160	Hi8
C151	2203-000604	C-CERAMIC,CHIP;22nF,10%,25V,X7R,TP,1608	NOR
C151	2203-000998	C-CERAMIC,CHIP;0.047nF,5%,50V,NP0,TP,160	Hi8
C152	2203-000604	C-CERAMIC,CHIP;22nF,10%,25V,X7R,TP,1608	NOR
C152	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	Hi8
C153	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	Hi8
C153	2203-000604	C-CERAMIC,CHIP;22nF,10%,25V,X7R,TP,1608	NOR
C154	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C154	2203-000332	C-CERAMIC,CHIP;0.012nF,5%,50V,NP0,TP,160	NOR
C155	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C155	2203-000604	C-CERAMIC,CHIP;22nF,10%,25V,X7R,TP,1608	NOR
C156	2203-000384	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160	NOR
C156	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	Hi8
C157	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	NOR
C181	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C182	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	NOR
C183	2203-001408	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,1608	NOR
C184	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C201	2203-000332	C-CERAMIC,CHIP;0.012nF,5%,50V,NP0,TP,160	NOR
C202	2203-001656	C-CERAMIC,CHIP;0.47nF,5%,50V,NP0,TP,1608	Hi8
C202	2404-001131	C-TA,CHIP;22UF,10%,10V,GP,TP,3528	NOR
C203	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C203	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	Hi8
C204	2203-001640	C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160	Hi8
C205	2203-001640	C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160	Hi8
C206	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	NOR
C206	2203-000357	C-CERAMIC,CHIP;0.15nF,5%,50V,NP0,TP,1608	Hi8
C207	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	NOR
C207	2203-000357	C-CERAMIC,CHIP;0.15nF,5%,50V,NP0,TP,1608	Hi8
C208	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	NOR
C209	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	NOR
C210	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C210	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	NOR
C211	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	NOR
C211	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	Hi8
C212	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C212	2203-001697	C-CERAMIC,CHIP;0.082nF,5%,50V,NP0,TP,160	Hi8
C213	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C213	2203-001652	C-CERAMIC,CHIP;470nF,+80-20%,16V,Y5V,TP,	Hi8
C214	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C215	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
C215	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	NOR
C216	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C218	2203-000975	C-CERAMIC,CHIP;47nF,10%,25V,X7R,TP,1608,	NOR
C219	2404-000167	C-TA,CHIP;2.2uF,20%,16V,-,TP,3216,-	NOR
C220	2404-000151	C-TA,CHIP;1uF,20%,16V,-,TP,3216,-	NOR
C221	2203-001652	C-CERAMIC,CHIP;470nF,+80-20%,16V,Y5V,TP,	Hi8
C221	2404-000218	C-TA,CHIP;330nF,20%,35V,-,TP,3216,-	NOR
C222	2404-000167	C-TA,CHIP;2.2uF,20%,16V,-,TP,3216,-	NOR
C222	2404-000250	C-TA,CHIP;470nF,20%,25V,-,TP,3216,-	Hi8
C223	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C224	2203-000715	C-CERAMIC,CHIP;3.3nF,10%,50V,X7R,TP,1608	NOR
C224	2203-001652	C-CERAMIC,CHIP;470nF,+80-20%,16V,Y5V,TP,	Hi8
C225	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	NOR
C225	2404-001131	C-TA,CHIP;22UF,10%,10V,GP,TP,3528	Hi8
C226	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
C226	2203-001640	C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160	NOR

Loc. No	Part No	Desc & Spec	Remark
C431	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	Hi8
C432	2203-000681	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,160	Hi8
C433	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
C434	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	Hi8
C501	2404-000256	C-TA,CHIP;47UF,20%,16V,GP,TP,7343	
C502	2203-002793	C-CERAMIC,CHIP;1000nF,+80-20%,25V,Y5V,TP	
C503	2404-001039	C-TA,CHIP;47uF,20%,6.3V,GP,TP,3528,-	
C505	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C506	2203-001640	C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160	
C507	2203-001607	C-CERAMIC,CHIP;0.22nF,5%,50V,NP0,TP,1608	
C508	2203-001607	C-CERAMIC,CHIP;0.22nF,5%,50V,NP0,TP,1608	
C509	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C510	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C511	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C512	2203-000888	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,1608	
C513	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C514	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C515	2203-000888	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,1608	
C516	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C517	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C518	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C519	2203-001630	C-CERAMIC,CHIP;330nF,+80-20%,16V,Y5V,TP,	
C520	2203-000975	C-CERAMIC,CHIP;47nF,10%,25V,X7R,TP,1608,	
C521	2203-002793	C-CERAMIC,CHIP;1000nF,+80-20%,25V,Y5V,TP	
C522	2203-000715	C-CERAMIC,CHIP;3.3nF,10%,50V,X7R,TP,1608	
C523	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C524	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
C525	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
C526	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
C527	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
C528	2404-000151	C-TA,CHIP;1uF,20%,16V,-,TP,3216,-	
C529	2203-000975	C-CERAMIC,CHIP;47nF,10%,25V,X7R,TP,1608,	
C530	2203-000888	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,1608	
C531	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
C534	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C535	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C536	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C537	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C538	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C539	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C541	2404-000284	C-TA,CHIP;10uF,20%,16V,-,TP,3528,-	
C542	2203-001640	C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160	
C543	2203-001662	C-CERAMIC,CHIP;5.6nF,10%,50V,NP0,TP,1608	
C544	2203-000888	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,1608	
C545	2203-001103	C-CERAMIC,CHIP;6.8nF,10%,50V,X7R,TP,1608	

Loc. No	Part No	Desc & Spec	Remark
C546	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C547	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C548	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C549	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C550	2404-000232	C-TA,CHIP;4.7uF,20%,10V,-,TP,3216,-	
C551	2404-000232	C-TA,CHIP;4.7uF,20%,10V,-,TP,3216,-	
C601	2404-001039	C-TA,CHIP;47uF,20%,6.3V,GP,TP,3528,-	
C602	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C604	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C605	2203-000332	C-CERAMIC,CHIP;0.012nF,5%,50V,NP0,TP,160	
C606	2203-000332	C-CERAMIC,CHIP;0.012nF,5%,50V,NP0,TP,160	
C607	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C608	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C609	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
C610	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
C611	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C612	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C613	2203-002793	C-CERAMIC,CHIP;1000nF,+80-20%,25V,Y5V,TP	
C614	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C615	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C701	2203-000975	C-CERAMIC,CHIP;47nF,10%,25V,X7R,TP,1608,	
C702	2203-000975	C-CERAMIC,CHIP;47nF,10%,25V,X7R,TP,1608,	
C703	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C704	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C705	2203-000975	C-CERAMIC,CHIP;47nF,10%,25V,X7R,TP,1608,	
C706	2404-001131	C-TA,CHIP;22UF,10%,10V,GP,TP,3528	
C707	2404-000246	C-TA,CHIP;4.7uF,20%,6.3V,-,TP,3216,-	
C708	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C709	2404-000246	C-TA,CHIP;4.7uF,20%,6.3V,-,TP,3216,-	
C710	2203-000922	C-CERAMIC,CHIP;470nF,+80-20%,25V,Y5V,TP,	
C711	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	
C712	2404-000246	C-TA,CHIP;4.7uF,20%,6.3V,-,TP,3216,-	
C713	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C714	2203-001103	C-CERAMIC,CHIP;6.8nF,10%,50V,X7R,TP,1608	
C715	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C716	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	
C717	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
C718	2203-000715	C-CERAMIC,CHIP;3.3nF,10%,50V,X7R,TP,1608	
C719	2203-001607	C-CERAMIC,CHIP;0.22nF,5%,50V,NP0,TP,1608	
C720	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C721	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
C722	2203-000491	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608	
C723	2404-000151	C-TA,CHIP;1uF,20%,16V,-,TP,3216,-	
C728	2404-000151	C-TA,CHIP;1uF,20%,16V,-,TP,3216,-	
C729	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	

Loc. No	Part No	Desc & Spec	Remark
CP29	2404-000212	C-TA,CHIP;3.3uF,20%,25V,-,TP,3528,-	
CP30	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP31	2203-002793	C-CERAMIC,CHIP;1000nF,+80-20%,25V,Y5V,TP	
CP32	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP33	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP34	2203-001640	C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160	
CP35	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	
CP36	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP37	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP38	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP39	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP40	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP41	2404-001131	C-TA,CHIP;22UF,10%,10V,GP,TP,3528	
CP42	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP43	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP44	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP45	2203-002793	C-CERAMIC,CHIP;1000nF,+80-20%,25V,Y5V,TP	
CP46	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP47	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP48	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP49	2404-001131	C-TA,CHIP;22UF,10%,10V,GP,TP,3528	
CP50	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	
CP51	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP52	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP53	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
CP54	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP55	2203-001640	C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160	
CP56	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP58	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
CP59	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP60	2203-001640	C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160	
CP61	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP62	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP63	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP64	2203-000384	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160	Hi8
CP64	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	NOR
CP65	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP66	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP67	2203-000426	C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160	
CP68	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
CP69	2203-000998	C-CERAMIC,CHIP;0.047nF,5%,50V,NP0,TP,160	
CP70	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
CP71	2203-000681	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,160	
CP72	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP73	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP74	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP75	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	
CP76	2203-001222	C-CERAMIC,CHIP;820pF,10%,50V,X7R,TP,1608	
CP77	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP79	2203-001630	C-CERAMIC,CHIP;330nF,+80-20%,16V,Y5V,TP,	
CP80	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP81	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP82	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP83	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP84	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP85	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP86	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP87	2404-000212	C-TA,CHIP;3.3uF,20%,25V,-,TP,3528,-	
CP88	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	
CP89	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP90	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	
CP91	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP92	2203-000332	C-CERAMIC,CHIP;0.012nF,5%,50V,NP0,TP,160	
CP93	2203-000332	C-CERAMIC,CHIP;0.012nF,5%,50V,NP0,TP,160	
CP94	2203-002793	C-CERAMIC,CHIP;1000nF,+80-20%,25V,Y5V,TP	
CP95	2203-002793	C-CERAMIC,CHIP;1000nF,+80-20%,25V,Y5V,TP	
CP96	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CP97	2203-000384	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160	
CP98	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	
CP99	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CW01	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
CW03	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	Hi8
D101	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	Hi8
D151	0407-000122	DIODE-ARRAY;KDS226,80V,300mA,C2-3,SOT-23	
D281	0401-001058	DIODE-SWITCHING;KDS121,85V,300mA,SOT-323	
D282	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
D301	0401-001058	DIODE-SWITCHING;KDS121,85V,300mA,SOT-323	
D302	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
D357	0401-001058	DIODE-SWITCHING;KDS121,85V,300mA,SOT-323	Hi8
D381	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	Hi8
D391	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
D501	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
D701	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
D901	0407-000139	DIODE-ARRAY;IMN10,80V,100mA,CX3,IMD,TP	
DP01	0405-000143	DIODE-VARACTOR;MA341,30V,10nA,MINI-2,TP	
DP02	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
DP03	0407-000148	DIODE-ARRAY;MA141WK,40V,150mA,CA2-3,SC-7	
DP04	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
DP05	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
DP06	0401-001058	DIODE-SWITCHING;KDS121,85V,300mA,SOT-323	

Loc. No	Part No	Desc & Spec	Remark
L351	2703-000397	INDUCTOR-SMD;33uH,10%,2.5x2x1.8mm	Hi8
L381	2703-000397	INDUCTOR-SMD;33uH,10%,2.5x2x1.8mm	NOR
L401	2703-000365	INDUCTOR-SMD;15uH,5%,2.5x2x1.8mm	NOR
L401	2703-000397	INDUCTOR-SMD;33uH,10%,2.5x2x1.8mm	Hi8
L402	2703-000397	INDUCTOR-SMD;33uH,10%,2.5x2x1.8mm	NOR
L431	2703-000365	INDUCTOR-SMD;15uH,5%,2.5x2x1.8mm	Hi8
L432	2703-000397	INDUCTOR-SMD;33uH,10%,2.5x2x1.8mm	Hi8
L503	2703-000398	INDUCTOR-SMD;10uH,10%,3.2x2.5x2.2mm	
L601	2703-000409	INDUCTOR-SMD;47uH,10%,3.2x2.5x2.2mm	
L701	2703-000397	INDUCTOR-SMD;33uH,10%,2.5x2x1.8mm	
L901	2703-001863	INDUCTOR-SMD;6.8UH,20%,2.5X2X1.8MM	
L902	2703-000402	INDUCTOR-SMD;1uH,20%,3.2x2.5x2.2mm	
L903	2703-001872	INDUCTOR-SMD;22UH,20%,6X6X2.8MM	
L904	2703-001863	INDUCTOR-SMD;6.8UH,20%,2.5X2X1.8MM	
L905	2703-000398	INDUCTOR-SMD;10uH,10%,3.2x2.5x2.2mm	
L908	2703-001863	INDUCTOR-SMD;6.8UH,20%,2.5X2X1.8MM	
L909	2703-001863	INDUCTOR-SMD;6.8UH,20%,2.5X2X1.8MM	
L910	2703-000402	INDUCTOR-SMD;1uH,20%,3.2x2.5x2.2mm	
L911	2703-001910	INDUCTOR-SMD;68uH,20%,6x6x2.8mm	
L912	2703-001910	INDUCTOR-SMD;68uH,20%,6x6x2.8mm	
L914	2703-000397	INDUCTOR-SMD;33uH,10%,2.5x2x1.8mm	
L915	2703-000397	INDUCTOR-SMD;33uH,10%,2.5x2x1.8mm	
L916	2703-000397	INDUCTOR-SMD;33uH,10%,2.5x2x1.8mm	
L917	2703-000402	INDUCTOR-SMD;1uH,20%,3.2x2.5x2.2mm	
L918	2703-001872	INDUCTOR-SMD;22UH,20%,6X6X2.8MM	
L919	2703-000411	INDUCTOR-SMD;4.7uH,20%,3.2x2.5x2.2mm	
L920	2703-000398	INDUCTOR-SMD;10uH,10%,3.2x2.5x2.2mm	
L921	2703-000398	INDUCTOR-SMD;10uH,10%,3.2x2.5x2.2mm	
L922	2703-000398	INDUCTOR-SMD;10uH,10%,3.2x2.5x2.2mm	
LD01	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
LD02	2703-000403	INDUCTOR-SMD;22uH,10%,3.2x2.5x2.2mm	
LP01	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
LP02	2703-000403	INDUCTOR-SMD;22uH,10%,3.2x2.5x2.2mm	
LP03	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
LP04	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
LP05	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
LP06	2703-000403	INDUCTOR-SMD;22uH,10%,3.2x2.5x2.2mm	
LP07	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
LP08	2703-000366	INDUCTOR-SMD;22uH,5%,2.5x2x1.8mm	
LP09	2703-000373	INDUCTOR-SMD;68uH,5%,2.5x2x1.8mm	
LP10	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
LP11	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
LP12	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
Q001	0506-000146	TR-ARRAY;UMH6N,NPN,2,150mW,UM6,TP,68	Hi8
Q004	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	Hi8
Q031	0506-000150	TR-ARRAY;UMX2N,NPN,2,50V,40V,100MA,300M	Hi8
Q032	0506-000150	TR-ARRAY;UMX2N,NPN,2,50V,40V,100MA,300M	Hi8
Q033	0501-000218	TR-SMALL SIGNAL;2SC4081,NPN,200mW,UMT,TP	Hi8
Q051	0506-000148	TR-ARRAY;UMT2N,PNP,2,-50V,-40V,-100MA,3	Hi8
Q052	0501-000218	TR-SMALL SIGNAL;2SC4081,NPN,200mW,UMT,TP	Hi8
Q101	0501-000218	TR-SMALL SIGNAL;2SC4081,NPN,200mW,UMT,TP	Hi8
Q102	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	Hi8
Q103	0501-000218	TR-SMALL SIGNAL;2SC4081,NPN,200mW,UMT,TP	Hi8
Q104	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	Hi8
Q107	0506-000151	TR-ARRAY;UMZ1N,NPN/PNP,1,50V,40V,100mA,	Hi8
Q108	0506-000150	TR-ARRAY;UMX2N,NPN,2,50V,40V,100MA,300M	Hi8
Q110	0506-000146	TR-ARRAY;UMH6N,NPN,2,150mW,UM6,TP,68	Hi8
Q130	0501-002128	TR-SMALL SIGNAL;KTC4075,NPN,100mW,USM,TP	NOR
Q131	0506-000148	TR-ARRAY;UMT2N,PNP,2,-50V,-40V,-100MA,3	NOR
Q140	0506-000150	TR-ARRAY;UMX2N,NPN,2,50V,40V,100MA,300M	NOR
Q141	0506-000150	TR-ARRAY;UMX2N,NPN,2,50V,40V,100MA,300M	NOR
Q142	0501-002128	TR-SMALL SIGNAL;KTC4075,NPN,100mW,USM,TP	NOR
Q143	0501-002128	TR-SMALL SIGNAL;KTC4075,NPN,100mW,USM,TP	NOR
Q144	0501-002128	TR-SMALL SIGNAL;KTC4075,NPN,100mW,USM,TP	NOR
Q145	0501-000448	TR-SMALL SIGNAL;KTC3880Y,NPN,100mW,SOT-2	NOR
Q146	0501-002128	TR-SMALL SIGNAL;KTC4075,NPN,100mW,USM,TP	NOR
Q147	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	NOR
Q148	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	NOR
Q149	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	NOR
Q161	0504-001036	TR-DIGITAL;KRA304,PNP,100mW,47K/47Kohm,S	Hi8
Q181	0501-002128	TR-SMALL SIGNAL;KTC4075,NPN,100mW,USM,TP	NOR
Q182	0501-002128	TR-SMALL SIGNAL;KTC4075,NPN,100mW,USM,TP	NOR
Q201	0504-001037	TR-DIGITAL;KRC401,NPN,100MW,4.7K/4.7K,SO	Hi8
Q202	0504-001037	TR-DIGITAL;KRC401,NPN,100MW,4.7K/4.7K,SO	Hi8
Q210	0501-002171	TR-SMALL SIGNAL;KTA2014,PNP,100mW,SOT-32	Hi8
Q217	0501-000218	TR-SMALL SIGNAL;2SC4081,NPN,200mW,UMT,TP	Hi8
Q218	0501-000218	TR-SMALL SIGNAL;2SC4081,NPN,200mW,UMT,TP	Hi8
Q221	0506-000150	TR-ARRAY;UMX2N,NPN,2,50V,40V,100MA,300M	NOR
Q261	0506-000151	TR-ARRAY;UMZ1N,NPN/PNP,1,50V,40V,100mA,	NOR
Q262	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	NOR
Q263	0501-002171	TR-SMALL SIGNAL;KTA2014,PNP,100mW,SOT-32	NOR
Q271	0506-000150	TR-ARRAY;UMX2N,NPN,2,50V,40V,100MA,300M	NOR
Q272	0501-002128	TR-SMALL SIGNAL;KTC4075,NPN,100mW,USM,TP	NOR
Q281	0506-000150	TR-ARRAY;UMX2N,NPN,2,50V,40V,100MA,300M	NOR
Q282	0501-002171	TR-SMALL SIGNAL;KTA2014,PNP,100mW,SOT-32	NOR
Q282	0506-000151	TR-ARRAY;UMZ1N,NPN/PNP,1,50V,40V,100mA,	Hi8
Q288	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	Hi8
Q301	0501-002128	TR-SMALL SIGNAL;KTC4075,NPN,100mW,USM,TP	NOR
Q302	0501-002128	TR-SMALL SIGNAL;KTC4075,NPN,100mW,USM,TP	NOR
Q348	0501-002171	TR-SMALL SIGNAL;KTA2014,PNP,100mW,SOT-32	Hi8

Loc. No	Part No	Desc & Spec	Remark
R107	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	Hi8
R108	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	Hi8
R108	2007-000100	R-CHIP;68Kohm,5%,1/16W,DA,TP,1608	NOR
R109	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	Hi8
R110	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	Hi8
R111	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	Hi8
R111	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	NOR
R112	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	Hi8
R112	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	NOR
R113	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	NOR
R113	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	Hi8
R114	2007-000086	R-CHIP;5.6Kohm,5%,1/16W,DA,TP,1608	Hi8
R114	2007-000118	R-CHIP;390ohm,5%,1/16W,DA,TP,1608	NOR
R115	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	Hi8
R115	2007-000118	R-CHIP;390ohm,5%,1/16W,DA,TP,1608	NOR
R116	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	NOR
R116	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	Hi8
R117	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	NOR
R117	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	Hi8
R118	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R118	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	NOR
R119	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R120	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R121	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R122	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	Hi8
R123	2007-000643	R-CHIP;270ohm,5%,1/16W,DA,TP,1608	Hi8
R124	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	Hi8
R125	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R126	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	Hi8
R127	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	Hi8
R128	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	Hi8
R129	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	Hi8
R130	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	Hi8
R130	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	NOR
R131	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	NOR
R131	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	Hi8
R132	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R132	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	NOR
R133	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	NOR
R133	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	Hi8
R134	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	NOR
R134	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R135	2007-000081	R-CHIP;2.7Kohm,5%,1/16W,DA,TP,1608	Hi8
R135	2007-000643	R-CHIP;270ohm,5%,1/16W,DA,TP,1608	NOR
R136	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	NOR
R136	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	Hi8
R137	2007-000071	R-CHIP;22ohm,5%,1/16W,DA,TP,1608	NOR
R140	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	Hi8
R140	2007-000458	R-CHIP;18Kohm,5%,1/16W,DA,TP,1608	NOR
R141	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	Hi8
R141	2007-000119	R-CHIP;560ohm,5%,1/16W,DA,TP,1608	NOR
R142	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	NOR
R142	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	Hi8
R143	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R143	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	NOR
R144	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	Hi8
R144	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	NOR
R145	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	Hi8
R145	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	NOR
R146	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	Hi8
R146	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	NOR
R147	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R147	2007-000118	R-CHIP;390ohm,5%,1/16W,DA,TP,1608	Hi8
R148	2007-000118	R-CHIP;390ohm,5%,1/16W,DA,TP,1608	Hi8
R148	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	NOR
R149	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R149	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	NOR
R150	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	NOR
R150	2007-000125	R-CHIP;3.9Kohm,5%,1/16W,DA,TP,1608	Hi8
R151	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	NOR
R152	2007-000119	R-CHIP;560ohm,5%,1/16W,DA,TP,1608	NOR
R153	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R154	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	NOR
R155	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	NOR
R156	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R157	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	NOR
R158	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	NOR
R159	2007-001157	R-CHIP;750ohm,5%,1/16W,DA,TP,160	NOR
R160	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	NOR
R161	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R161	2007-000091	R-CHIP;12Kohm,5%,1/16W,DA,TP,1608	NOR
R162	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	NOR
R163	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	NOR
R164	2007-000079	R-CHIP;1.8Kohm,5%,1/16W,DA,TP,1608	NOR
R165	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	NOR
R166	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R167	2007-000458	R-CHIP;18Kohm,5%,1/16W,DA,TP,1608	NOR
R168	2007-000458	R-CHIP;18Kohm,5%,1/16W,DA,TP,1608	NOR
R169	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R170	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	NOR

Loc. No	Part No	Desc & Spec	Remark
R295	2007-000087	R-CHIP;6.8Kohm,5%,1/16W,DA,TP,1608	NOR
R296	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	NOR
R301	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	NOR
R302	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	NOR
R303	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	NOR
R304	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	NOR
R305	2007-001179	R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608	NOR
R307	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	NOR
R308	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R309	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R340	2007-000458	R-CHIP;18Kohm,5%,1/16W,DA,TP,1608	Hi8
R341	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	Hi8
R342	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	Hi8
R343	2007-000081	R-CHIP;2.7Kohm,5%,1/16W,DA,TP,1608	Hi8
R345	2007-000122	R-CHIP;1.2Kohm,5%,1/16W,DA,TP,1608	Hi8
R346	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	Hi8
R347	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	Hi8
R350	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R351	2007-000076	R-CHIP;330ohm,5%,1/16W,DA,TP,1608	Hi8
R351	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	NOR
R352	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R352	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	Hi8
R353	2007-001134	R-CHIP;68ohm,5%,1/16W,DA,TP,1608	Hi8
R354	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R355	2007-000122	R-CHIP;1.2Kohm,5%,1/16W,DA,TP,1608	Hi8
R357	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	Hi8
R358	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	Hi8
R359	2007-000450	R-CHIP;180ohm,5%,1/16W,DA,TP,1608	Hi8
R360	2007-000450	R-CHIP;180ohm,5%,1/16W,DA,TP,1608	Hi8
R361	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R362	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	Hi8
R363	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	Hi8
R365	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	Hi8
R381	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R382	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R382	2007-000458	R-CHIP;18Kohm,5%,1/16W,DA,TP,1608	Hi8
R383	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R391	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R391	2007-000458	R-CHIP;18Kohm,5%,1/16W,DA,TP,1608	NOR
R392	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R392	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	Hi8
R393	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R401	2007-000450	R-CHIP;180ohm,5%,1/16W,DA,TP,1608	NOR
R402	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R403	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	

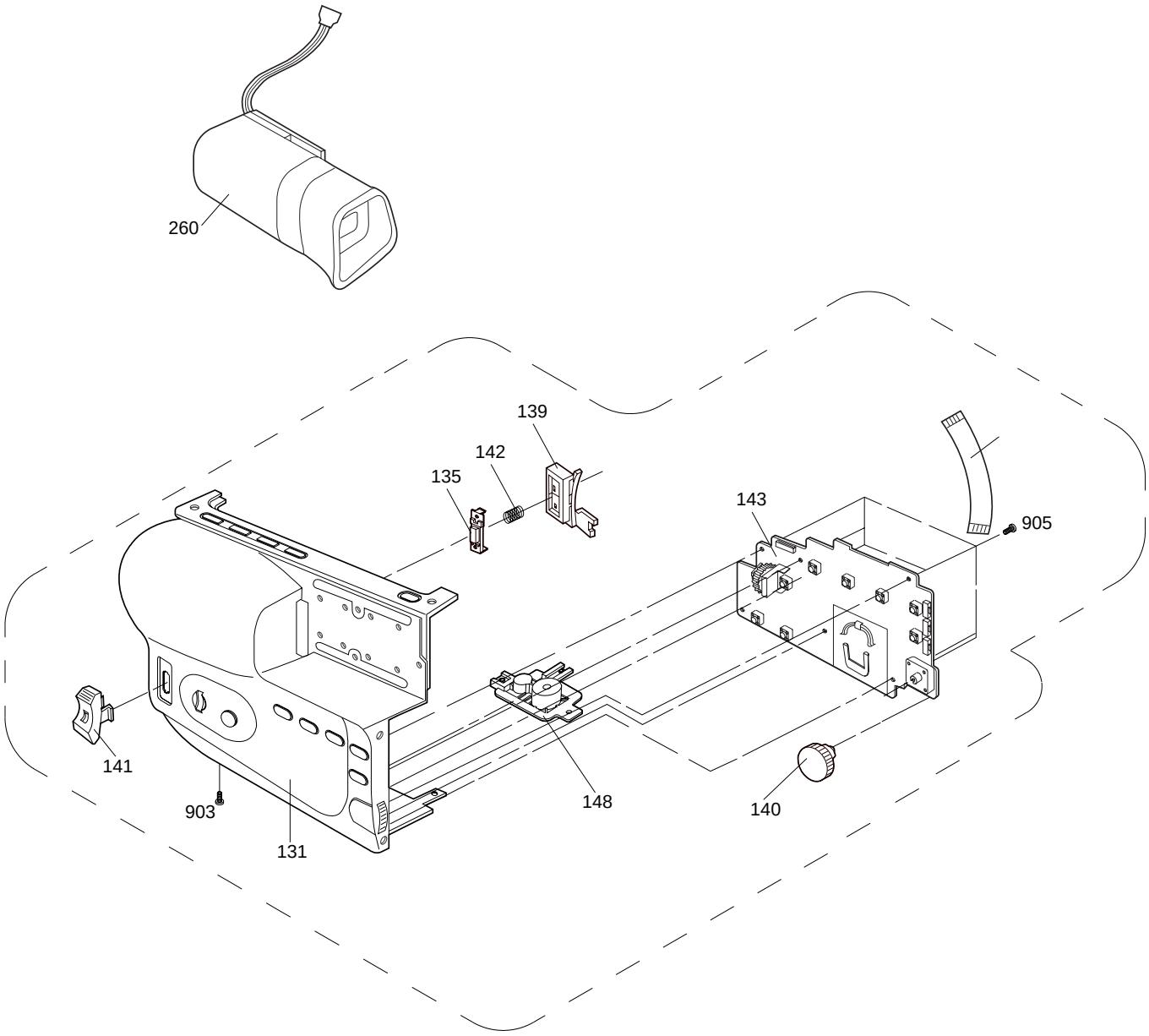
Loc. No	Part No	Desc & Spec	Remark
R404	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R405	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R406	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R407	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R408	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R409	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R410	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R411	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R412	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R413	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
R430	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R431	2007-000450	R-CHIP;180ohm,5%,1/16W,DA,TP,1608	Hi8
R432	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R433	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R434	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R435	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R436	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R437	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R438	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R439	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R440	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R441	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R442	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	Hi8
R501	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
R502	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
R503	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
R504	2007-000098	R-CHIP;56Kohm,5%,1/16W,DA,TP,1608	
R507	2007-001179	R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608	
R508	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
R509	2007-000107	R-CHIP;470Kohm,5%,1/16W,DA,TP,1608	
R510	2007-000109	R-CHIP;1Mohm,5%,1/16W,DA,TP,1608	
R511	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	
R512	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R513	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
R514	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	
R515	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
R516	2007-000109	R-CHIP;1Mohm,5%,1/16W,DA,TP,1608	
R517	2007-000130	R-CHIP;39Kohm,5%,1/16W,DA,TP,1608	
R518	2007-000503	R-CHIP;2.2ohm,5%,1/16W,DA,TP,1608	
R519	2007-000503	R-CHIP;2.2ohm,5%,1/16W,DA,TP,1608	
R520	2007-000503	R-CHIP;2.2ohm,5%,1/16W,DA,TP,1608	
R521	2007-000483	R-CHIP;1OHM,5%,1/10W,DA,TP,2012	
R522	2007-000483	R-CHIP;1OHM,5%,1/10W,DA,TP,2012	
R523	2007-000483	R-CHIP;1OHM,5%,1/10W,DA,TP,2012	
R524	2007-000483	R-CHIP;1OHM,5%,1/10W,DA,TP,2012	

Loc. No	Part No	Desc & Spec	Remark
R662	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R663	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R664	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R665	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
R666	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R667	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R668	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
R669	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
R670	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
R671	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
R673	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
R674	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
R695	2007-000455	R-CHIP;18Kohm,1%,1/16W,DA,TP,1608	
R696	2007-000772	R-CHIP;33Kohm,1%,1/16W,DA,TP,1608	
R697	2007-000772	R-CHIP;33Kohm,1%,1/16W,DA,TP,1608	
R698	2007-001125	R-CHIP;68Kohm,1%,1/16W,DA,TP,1608	
R701	2007-001096	R-CHIP;62Kohm,1%,1/16W,DA,TP,1608	
R702	2007-001096	R-CHIP;62Kohm,1%,1/16W,DA,TP,1608	
R703	2007-000736	R-CHIP;30Kohm,1%,1/16W,DA,TP,1608	
R704	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	
R705	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
R706	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R707	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	
R708	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	
R709	2007-000462	R-CHIP;18OHM,5%,1/10W,DA,TP,2012	
R710	2007-000691	R-CHIP;3.3Mohm,5%,1/16W,DA,TP,1608	
R711	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	
R713	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R714	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R715	2007-000104	R-CHIP;150Kohm,5%,1/16W,DA,TP,1608	
R716	2007-000691	R-CHIP;3.3Mohm,5%,1/16W,DA,TP,1608	
R719	2007-000121	R-CHIP;820ohm,5%,1/16W,DA,TP,1608	
R720	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
R721	2007-000122	R-CHIP;1.2Kohm,5%,1/16W,DA,TP,1608	
R722	2007-000708	R-CHIP;3.9Kohm,1%,1/16W,DA,TP,1608	
R723	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
R724	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
R725	2007-000450	R-CHIP;180ohm,5%,1/16W,DA,TP,1608	
R727	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R728	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R729	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
R734	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
R742	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
R761	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R762	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
R763	2007-000072	R-CHIP;47ohm,5%,1/16W,DA,TP,1608	
R901	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
R902	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	
R905	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	
R906	2007-000104	R-CHIP;150Kohm,5%,1/16W,DA,TP,1608	
R907	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R908	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R909	2007-000086	R-CHIP;5.6Kohm,5%,1/16W,DA,TP,1608	
R910	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
R911	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R912	2007-000086	R-CHIP;5.6Kohm,5%,1/16W,DA,TP,1608	
R913	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
R914	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R915	2007-001695	R-CHIP;22Kohm,0.5%,1/16W,DA,TP,1608	
R916	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
R917	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
R918	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
R919	2007-001694	R-CHIP;12Kohm,0.5%,1/16W,DA,TP,1608	
R920	2007-001650	R-CHIP;8.2Kohm,0.5%,1/16W,DA,TP,1608	
R921	2007-001643	R-CHIP;100Kohm,0.5%,1/16W,DA,TP,1608	
R922	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
R923	2007-001644	R-CHIP;10Kohm,0.5%,1/16W,DA,TP,1608	
R924	2007-001694	R-CHIP;12Kohm,0.5%,1/16W,DA,TP,1608	
R925	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
R926	2007-001694	R-CHIP;12Kohm,0.5%,1/16W,DA,TP,1608	
R927	2007-001644	R-CHIP;10Kohm,0.5%,1/16W,DA,TP,1608	
R928	2007-000086	R-CHIP;5.6Kohm,5%,1/16W,DA,TP,1608	
R929	2007-001697	R-CHIP;18Kohm,0.5%,1/16W,DA,TP,1608	
R930	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R931	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
R932	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
R933	2007-000093	R-CHIP;20Kohm,5%,1/16W,DA,TP,1608	
R940	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
RD05	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
RD51	2007-000309	R-CHIP;10ohm,5%,1/16W,DA,TP,1608	
RP01	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RP02	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RP03	2007-000092	R-CHIP;15Kohm,5%,1/16W,DA,TP,1608	
RP04	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RP05	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
RP06	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RP07	2007-000104	R-CHIP;150Kohm,5%,1/16W,DA,TP,1608	
RP08	2007-000125	R-CHIP;3.9Kohm,5%,1/16W,DA,TP,1608	
RP09	2007-000125	R-CHIP;3.9Kohm,5%,1/16W,DA,TP,1608	
RP10	2007-000104	R-CHIP;150Kohm,5%,1/16W,DA,TP,1608	

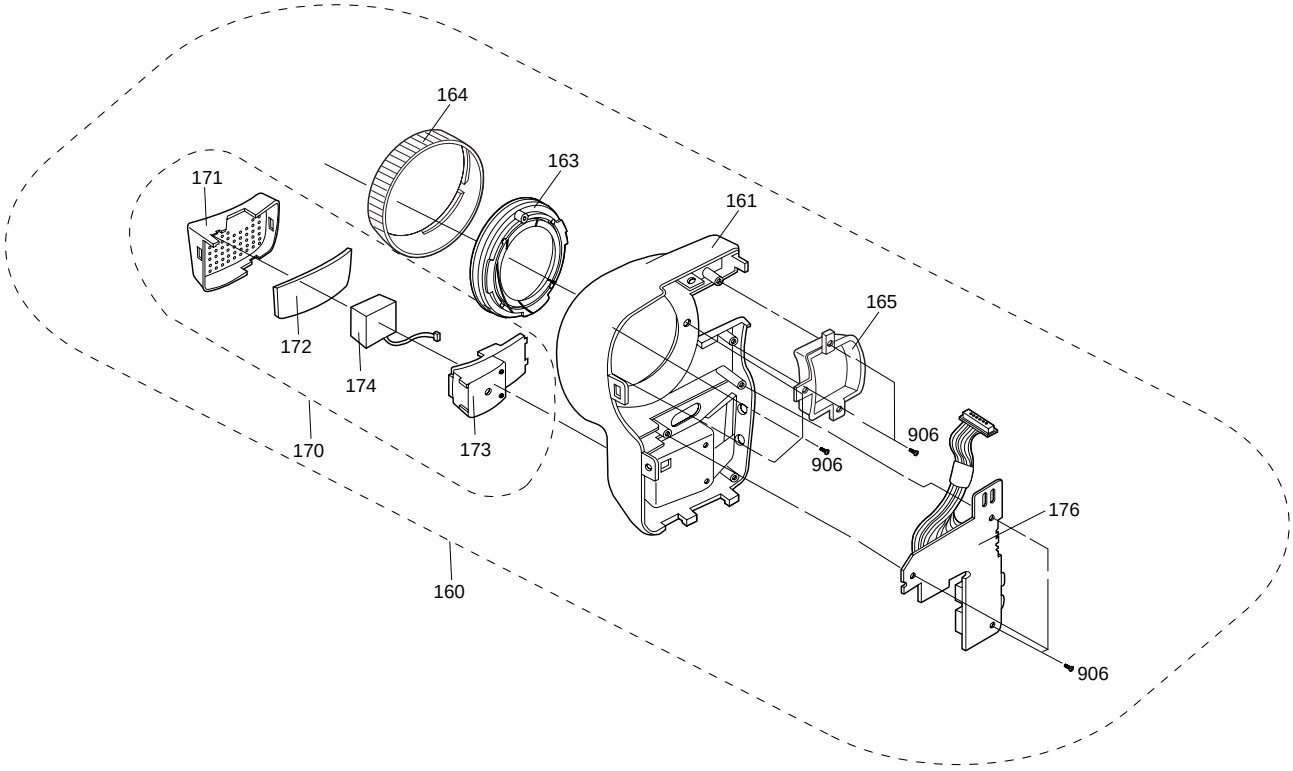
Loc. No	Part No	Desc & Spec	Remark
RP65	2007-000079	R-CHIP;1.8Kohm,5%,1/16W,DA,TP,1608	
RP66	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RP67	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	Hi8
RP69	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	NOR
RP70	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
RP71	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RP72	2007-000123	R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608	
RP73	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RP74	2007-000122	R-CHIP;1.2Kohm,5%,1/16W,DA,TP,1608	
RP75	2007-000052	R-CHIP;10Kohm,1%,1/16W,DA,TP,1608	
RP76	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
RP77	2007-000583	R-CHIP;22Kohm,1%,1/16W,DA,TP,1608	
RP78	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
RP79	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RP80	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RP81	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
RP82	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
RP83	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
RP84	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
RP85	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RP86	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
RP87	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
RP88	2007-000122	R-CHIP;1.2Kohm,5%,1/16W,DA,TP,1608	
RP89	2007-000052	R-CHIP;10Kohm,1%,1/16W,DA,TP,1608	
RP90	2007-000583	R-CHIP;22Kohm,1%,1/16W,DA,TP,1608	
RP91	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
RP92	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RP93	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RP94	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
RP95	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
RP96	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
RP97	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RW01	2007-000863	R-CHIP;4.3OHM,5%,1/10W,DA,TP,2012	Hi8
SW601	3404-001034	SWITCH-TACT;12V,50mA,160gf,4x7.4x1.8mm,S	
SW603	3404-001034	SWITCH-TACT;12V,50mA,160gf,4x7.4x1.8mm,S	
SW604	3404-001034	SWITCH-TACT;12V,50mA,160gf,4x7.4x1.8mm,S	
SW605	3404-001034	SWITCH-TACT;12V,50mA,160gf,4x7.4x1.8mm,S	
SW606	3404-001034	SWITCH-TACT;12V,50mA,160gf,4x7.4x1.8mm,S	
T901	AD26-00016A	TRANS;-,42uH,8P,15V,460KHz,FERRITE,M	
X601	2801-003239	CRYSTAL-SMD;11.71875MHz,50ppm,28-ABL,13p	
XP01	2801-001428	CRYSTAL-SMD;28.375MHz,30ppm,28-ABL,7pF,6	
XP02	2801-000258	CRYSTAL-UNIT;32.768KHz,20ppm,28-AAW,12	
XP03	2801-003242	CRYSTAL-SMD;11.895104MHz,50ppm,28-ABL,13	
		ASSY-FUNCTION BOARD	
CN471	3708-001472	CONNECTOR-FPC/FC/PIC;36P,0.5mm,SMD-A,SN	
CN473	3708-001334	CONNECTOR-FPC/FC/PIC;10P,0.8mm,SMD-A,SN	
LE470	0601-001422	LED;SMD,RED,-,660nm	
Q471	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	
R471	2007-000928	R-CHIP;470OHM,1%,1/10W,DA,TP,2012	
R472	2007-000454	R-CHIP;18KOHM,1%,1/10W,DA,TP,2012	
R473	2007-000771	R-CHIP;33KOHM,1%,1/10W,DA,TP,2012	
R474	2007-000771	R-CHIP;33KOHM,1%,1/10W,DA,TP,2012	
R475	2007-001124	R-CHIP;68KOHM,1%,1/10W,DA,TP,2012	
R476	2007-000928	R-CHIP;470OHM,1%,1/10W,DA,TP,2012	
R477	2007-000454	R-CHIP;18KOHM,1%,1/10W,DA,TP,2012	
R478	2007-000771	R-CHIP;33KOHM,1%,1/10W,DA,TP,2012	
R479	2007-000771	R-CHIP;33KOHM,1%,1/10W,DA,TP,2012	
R480	2007-001124	R-CHIP;68KOHM,1%,1/10W,DA,TP,2012	
R481	2007-000277	R-CHIP;100KOHM,1%,1/10W,DA,TP,2012	
R486	2007-000947	R-CHIP;47OHM,5%,1/10W,DA,TP,2012	
R487	2007-000565	R-CHIP;220KOHM,5%,1/10W,DA,TP,2012	
R492	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R493	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R494	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R495	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R498	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R499	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
SW471	3404-001037	SWITCH-TACT;12V,50mA,130gf,6x6x4.3mm,DPS	
SW472	3404-001037	SWITCH-TACT;12V,50mA,130gf,6x6x4.3mm,DPS	
SW473	3404-001037	SWITCH-TACT;12V,50mA,130gf,6x6x4.3mm,DPS	
SW474	3404-001037	SWITCH-TACT;12V,50mA,130gf,6x6x4.3mm,DPS	
SW475	3404-001037	SWITCH-TACT;12V,50mA,130gf,6x6x4.3mm,DPS	
SW476	3404-001037	SWITCH-TACT;12V,50mA,130gf,6x6x4.3mm,DPS	
SW477	3404-001037	SWITCH-TACT;12V,50mA,130gf,6x6x4.3mm,DPS	
SW478	3404-001116	SWITCH-TACT;12V DC,50mA,160gf,3.5x7.8x3.	
SW479	3404-001116	SWITCH-TACT;12V DC,50mA,160gf,3.5x7.8x3.	
SW480	3404-001116	SWITCH-TACT;12V DC,50mA,160gf,3.5x7.8x3.	
SW481	3404-001037	SWITCH-TACT;12V,50mA,130gf,6x6x4.3mm,DPS	
SW482	3409-001108	SWITCH-DETECTOR;5VDC,10mA,1,36gf,LEVER	
VR471	2101-001078	VR-ROTARY;1ohm,-,-,TOP	
VR472	2101-001076	VR-ROTARY;1ohm,-,-,SIDE	
		ASSY-CVF BOARD	
CNV01	3708-001026	CONNECTOR-FPC/FC/PIC;10P,0.5mm,ANGLE,SN	
CNV02	3708-000514	CONNECTOR-FPC/FFC/PIC;16P,0.5mm,SMD-S,SN	
CNV03	3708-001436	CONNECTOR-FPC/FC/PIC;4P,1mm,SMD-S,SN	
CV03	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
CV05	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
CV09	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
CV10	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
CV11	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	

Loc. No	Part No	Desc & Spec	Remark
CV42	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CV43	2404-001020	C-TA,CHIP;10uF,20%,10V,GP,TP,3216,3.2	
CV50	2404-001039	C-TA,CHIP;47uF,20%,6.3V,GP,TP,3528,-	
CV51	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CV73	2404-000212	C-TA,CHIP;3.3uF,20%,25V,-,TP,3528,-	
CV74	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
DV01	0405-000123	DIODE-VARACTOR;1T369,34V,10nA,DSM,TP	
ICV01	1003-001283	IC-LCD DRIVER;CXA3503R,LQFP,72P,-,SINGLE	
ICV02	1103-001133	IC-EEPROM;24C020,256x8BIT,SOP,8P,150MIL,	
LV03	2703-000363	INDUCTOR-SMD;10uH,5%,2.5x2x1.8mm	
LV04	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
LV06	2703-000396	INDUCTOR-SMD;10uH,10%,2.5x2x1.8mm	
LV11	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
LV12	2703-001883	INDUCTOR-SMD;22uH,10%,2.5x2x1.8mm	
RV11	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
RV12	2007-000103	R-CHIP;120Kohm,5%,1/16W,DA,TP,1608	
RV13	2007-000067	R-CHIP;15Kohm,1%,1/16W,DA,TP,1608	
RV14	2007-000772	R-CHIP;33Kohm,1%,1/16W,DA,TP,1608	
RV16	2007-000643	R-CHIP;270ohm,5%,1/16W,DA,TP,1608	
RV17	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RV18	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RV19	2007-000134	R-CHIP;33Kohm,5%,1/16W,DA,TP,1608	
RV20	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RV21	2007-000090	R-CHIP;10Kohm,5%,1/16W,DA,TP,1608	
RV27	2007-001670	R-CHIP;68OHM,1%,1/10W,DA,TP,2012	
RV30	2007-000060	R-CHIP;100Kohm,1%,1/16W,DA,TP,1608	
RV32	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RV33	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RV34	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
RV40	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RV41	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RV51	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
		ASSY-CCD BOARD	
CC01	2203-000140	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608	
CC02	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CC03	2404-000212	C-TA,CHIP;3.3uF,20%,25V,-,TP,3528,-	
CC04	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CC05	2404-000212	C-TA,CHIP;3.3uF,20%,25V,-,TP,3528,-	
CC06	2203-000189	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
CNC01	3711-004241	CONNECTOR-HEADER;BOX,18P,2R,1MM,SMD-A,SN	
DC02	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
ICC01	0605-001041	CCD;COLOR,DIP,14,400MIL,320K,7.3x4	320K
ICC01	0605-001038	CCD;COLOR,DIP,14P,400MIL,470K,4.85	470K
QC01	0505-000180	FET-SILICON;2SK1070PIETR,-,150MW,SOT	
RC01	2007-000109	R-CHIP;1Mohm,5%,1/16W,DA,TP,1608	
RC02	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
RC03	2007-000125	R-CHIP;3.9Kohm,5%,1/16W,DA,TP,1608	
RC05	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
RC07	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
		ASSY-FRONT BOARD	
CN801	AD39-00035A	LEAD CONNECTOR-ASSY;2.0/1.25MM,12P,70MM	
CN802	3711-000780	CONNECTOR-HEADER;BOX,2P,1R,1.25mm,STRAIG	
J801	3722-001441	JACK-PHONE;3P,3.6PI,AG,BLK,-	
J802	3722-001440	JACK-PHONE;4P,3.6PI,SN,YEL,-	
RE801	AD32-00007A	MODULE REMOCON;-,KSM-603TM,37.9KHz,940nm	REMOCON
		ASSY-REAR BOARD	
BT451	AD63-00072A	TERMINAL--BATTERY;T0.3,C5210R-H,-,-,-	
BT452	AD63-00072A	TERMINAL--BATTERY;T0.3,C5210R-H,-,-,-	
CN451	3710-001106	CONNECTOR-SOCKET;40P,2R,0.8mm,SMD-S,SN	
CN452	3710-001479	CONNECTOR-SOCKET;14P,2R,1MM,SMD-S,SN	
D451	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
D452	0401-001054	DIODE-SWITCHING;KDS160,85V,300mA,SOD-323	
IC451	AC14-12012T	IC-OP AMP;TA75S01F(TE85L),QFP,-	
J451	AD97-01199A	ASSY-DC JACK;M1-PJ,-,-	
J452	AD97-01200A	ASSY-S-JACK;M1-PJ,-,-	Hi8
PS451	3601-001154	FUSE-SURFACE MOUNT;125V,2.5A,SLOW-BLOW,C	
Q451	0505-001417	FET-SILICON;TPC8303,P,-30V,-4.5A,55mohm,	
Q452	0501-000546	TR-SMALL SIGNAL;KSA1298,PNP,200mW,SOT-23	
Q453	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	
Q454	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	
Q455	0504-001032	TR-DIGITAL;KRC404,NPN,100MW,47K/47K,SOT-	
Q456	0504-001047	TR-DIGITAL;DTA124EUA,PNP,200MW,22K/22K,S	
R451	2007-000922	R-CHIP;470KOHM,1%,1/10W,DA,TP,2012	
R452	2007-000562	R-CHIP;220KOHM,1%,1/10W,DA,TP,2012	
R453	2007-000941	R-CHIP;47KOHM,5%,1/10W,DA,TP,2012	
R454	2007-000477	R-CHIP;1MOHM,5%,1/10W,DA,TP,2012	
R455	2007-002749	R-CHIP;3.3OHM,5%,1/8W,DA,TP,3216	
R456	2007-000978	R-CHIP;5.6KOHM,1%,1/10W,DA,TP,2012	
R457	2007-000465	R-CHIP;1KOHM,1%,1/10W,DA,TP,2012	
R458	2007-000406	R-CHIP;15KOHM,1%,1/10W,DA,TP,2012	
R459	2007-000465	R-CHIP;1KOHM,1%,1/10W,DA,TP,2012	
R466	2007-007948	R-CHIP;0.1ohm,1%,0.75W,DA,TP,5025	
R472	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R473	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
SW471	3409-001035	SWITCH-DETECTOR;3~5V,50uA~10mA,2,30gf,R	
SW473	3404-001117	SWITCH-TACT;12V,50mA,130gf,8.0x3.7x2.5mm	
SW474	3404-001119	SWITCH-TACT;12V,50mA,130gf,6.2x6.2x2.6mm	
SW475	3409-001035	SWITCH-DETECTOR;3~5V,50uA~10mA,2,30gf,R	
VR471	2102-001019	VR-SLIDE;10Kohm,30%,1/20W,SLIDE	

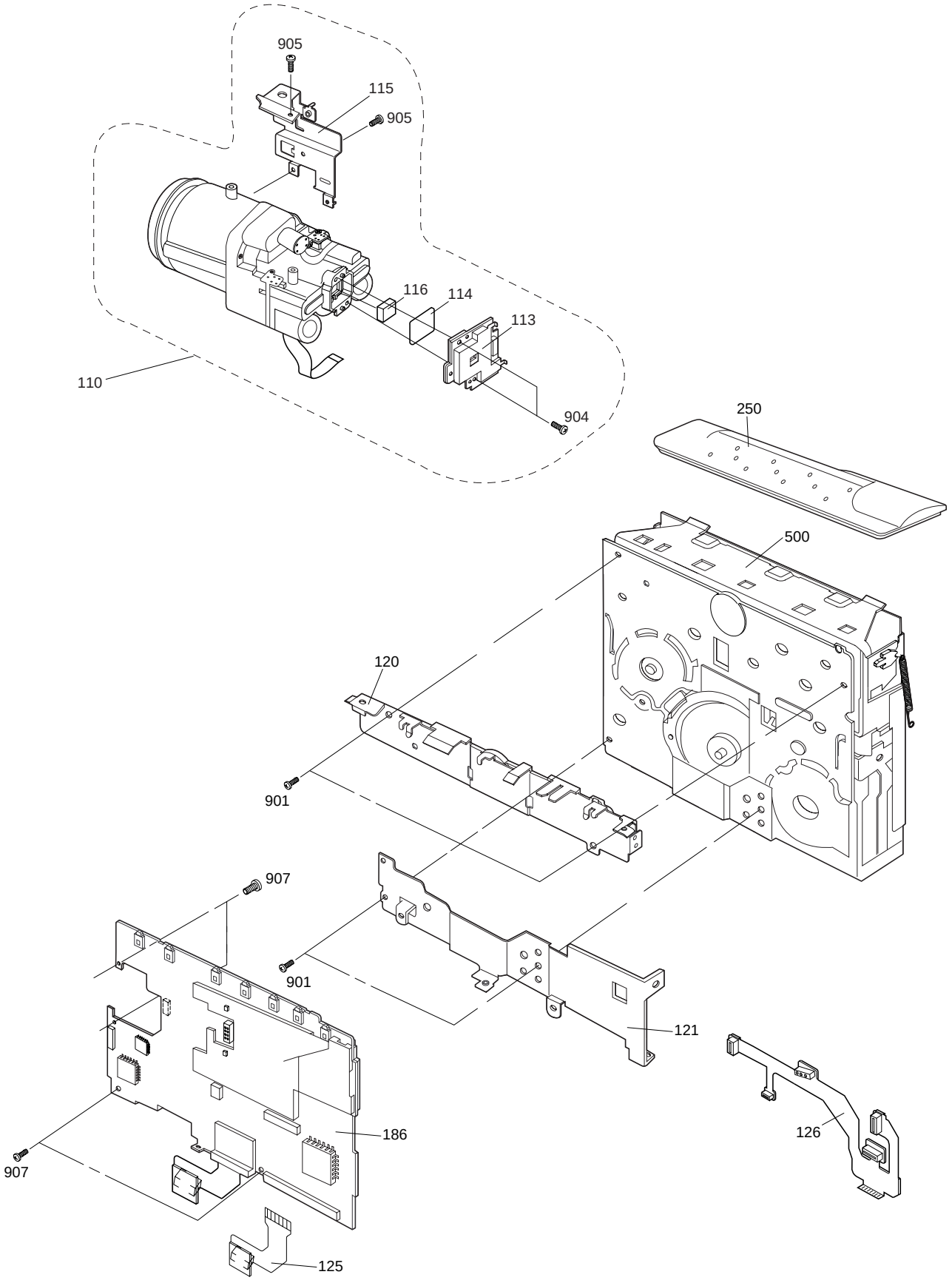
5-1 Cabinet Assembly (1)



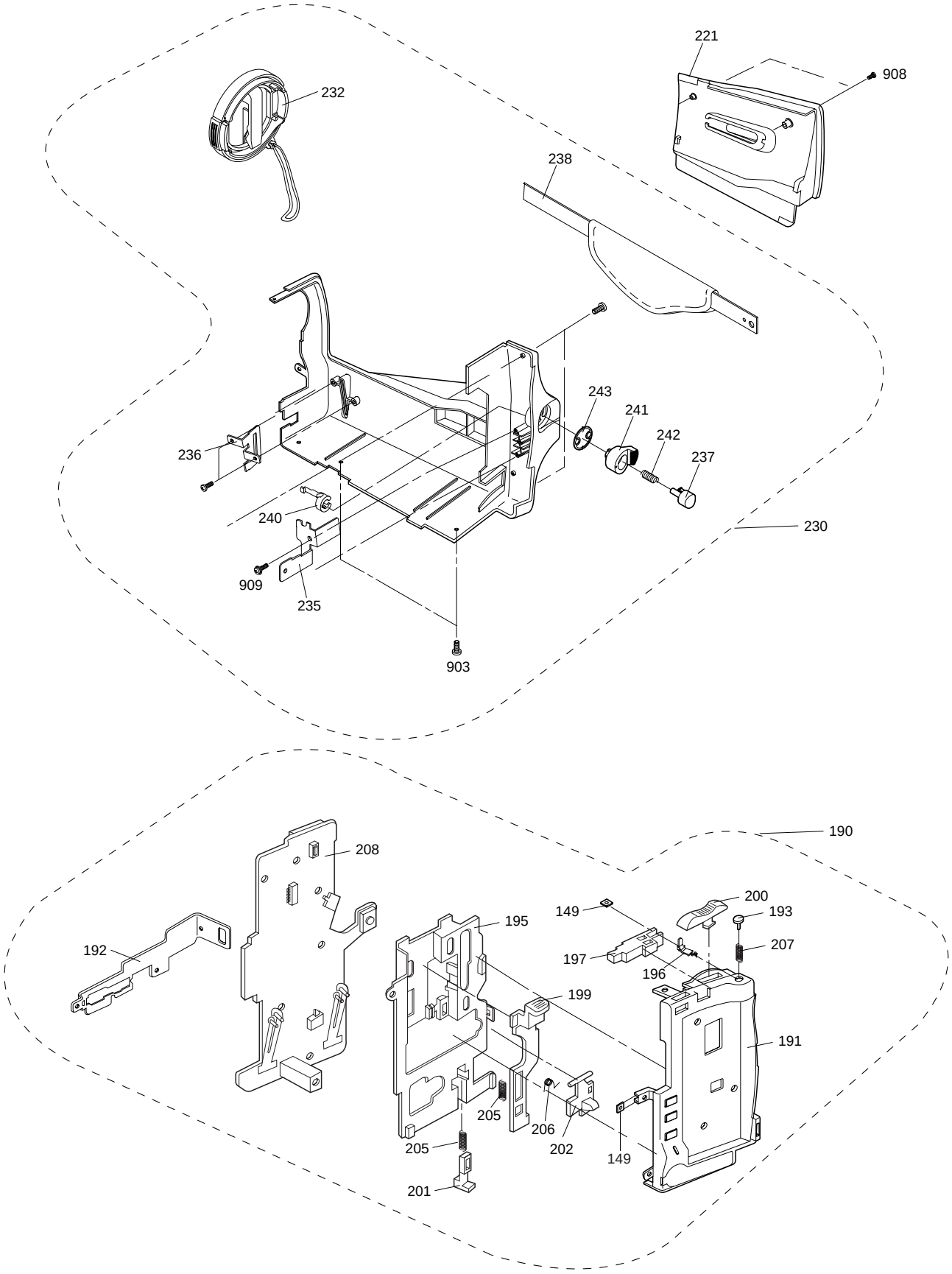
5-2 Cabinet Assembly (2)



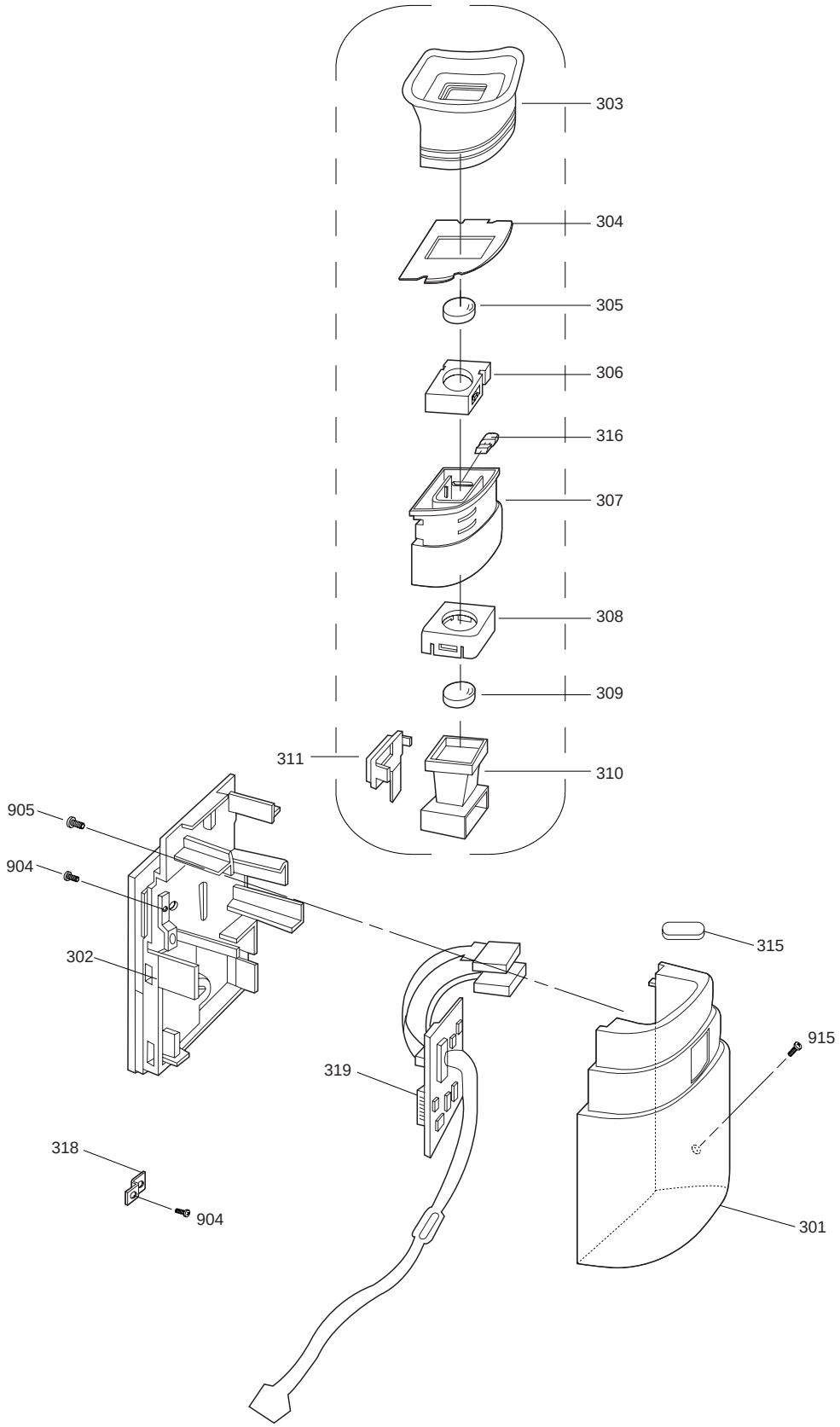
5-3 Cabinet Assembly (3)



5-4 Cabinet Assembly (4)



5-5 EVF/CVF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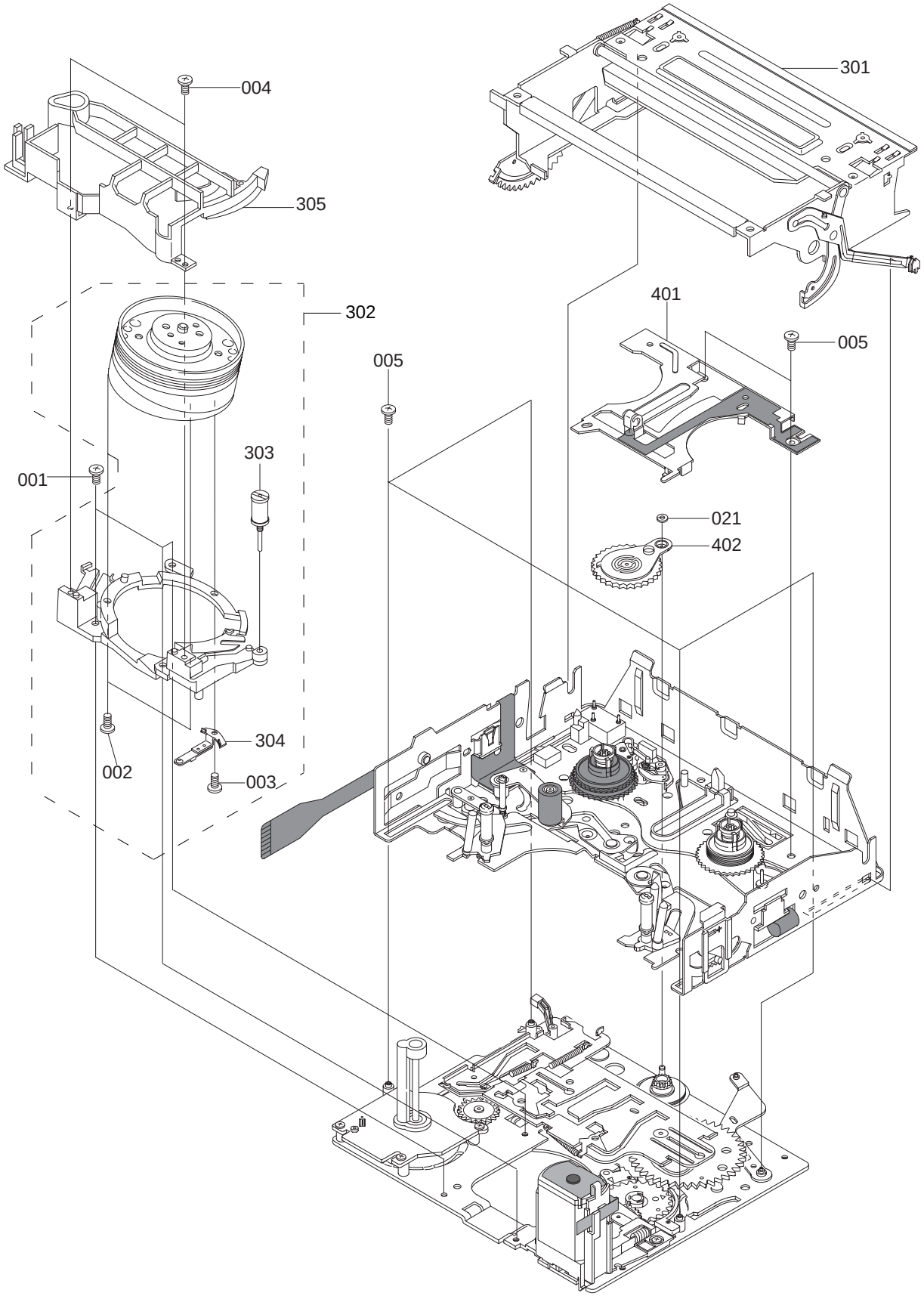
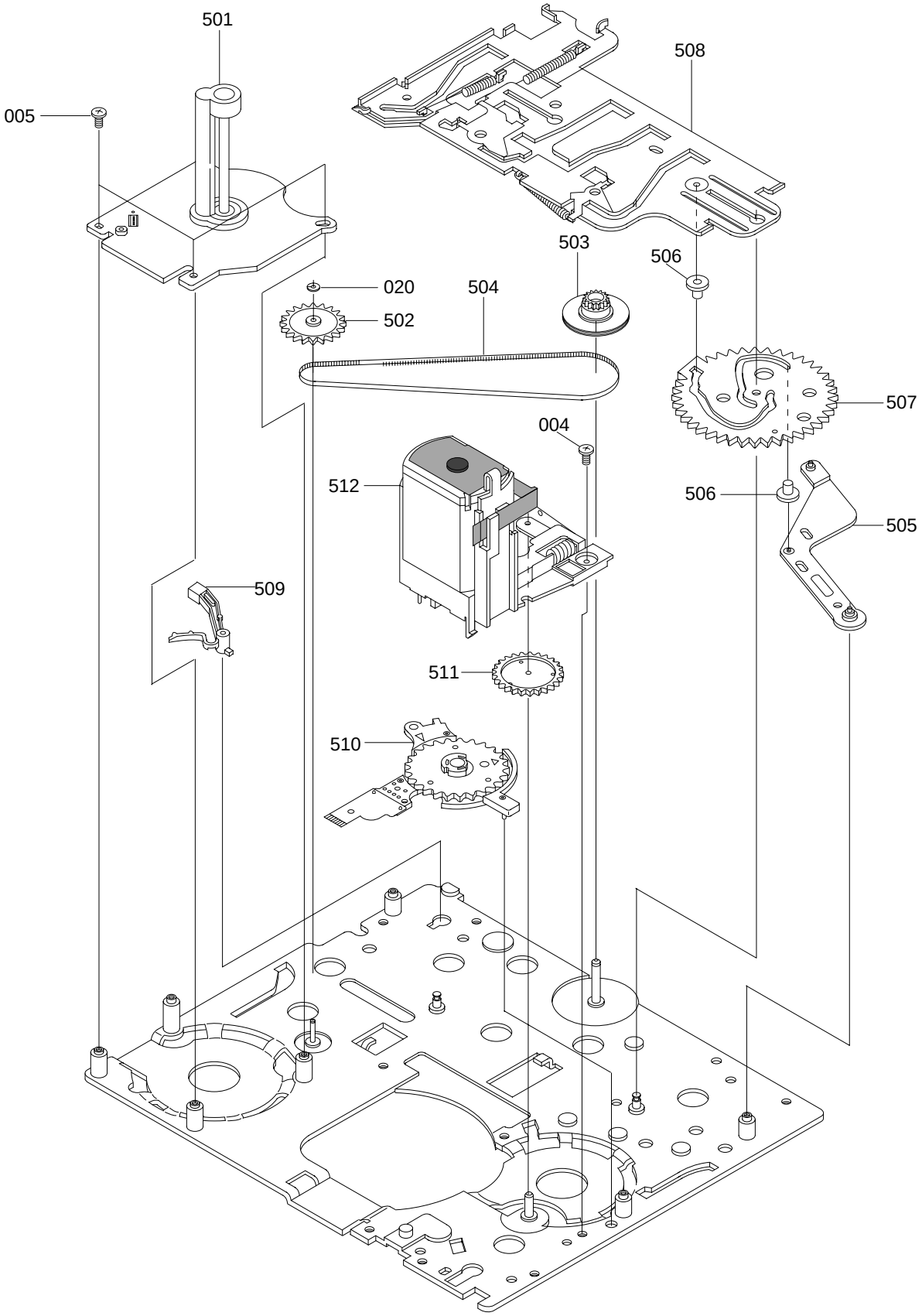
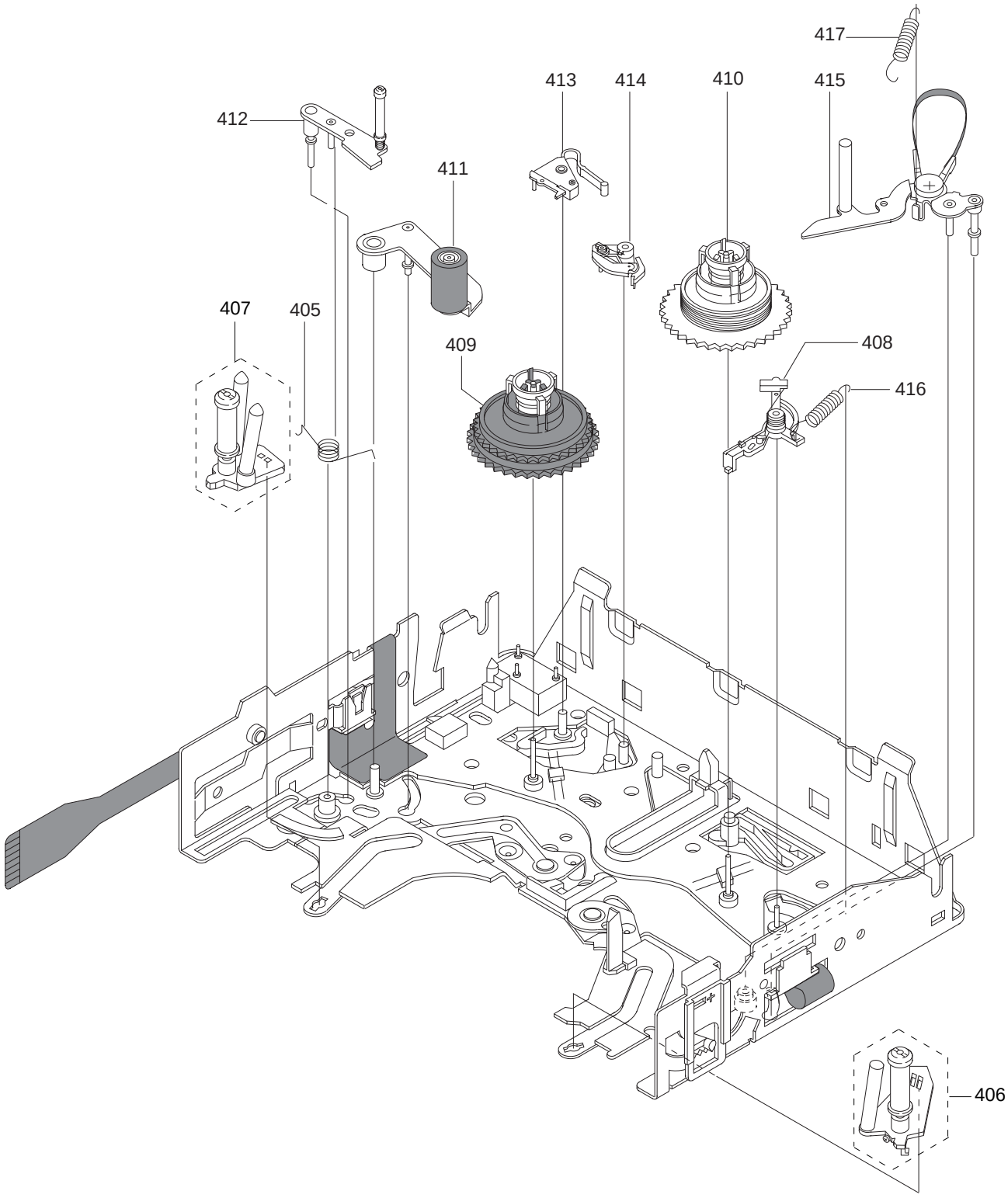
5-6 Mechanical Parts (1)



5-7 Mechanical Parts (2)



5-8 Mechanical Parts (3)



MEMO

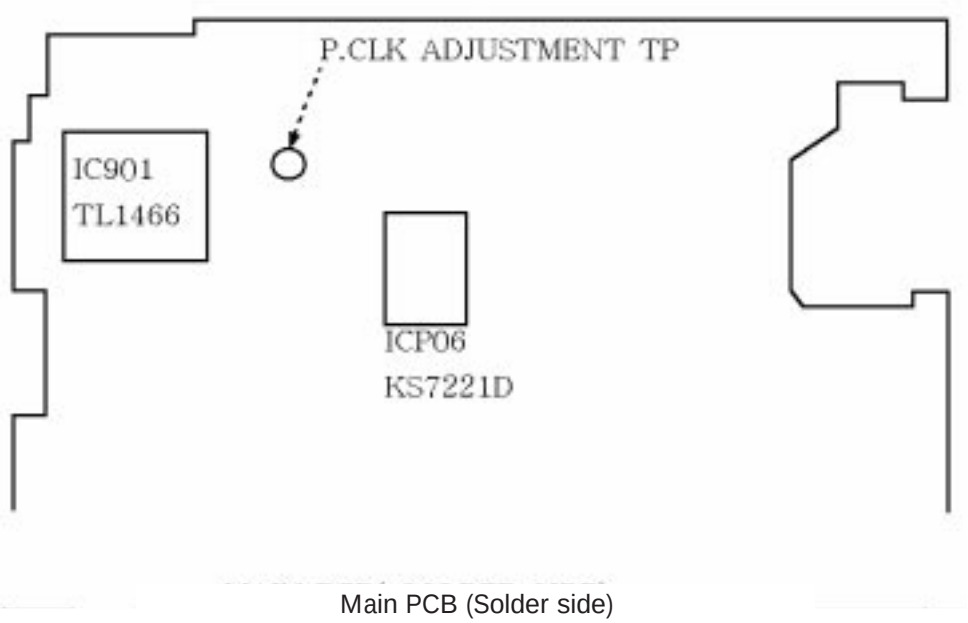
2. P. CLK Adjustment

1) “Camera”, no signal input.
2) P.CLK and AF MICOM.
3) Connect a frequency counter to P.CLK.
4) Press the “FADE(MODE UP)/BLC(MODE DOWN)” button so that the OSD state is “004 XX XX”.
5) Adjust the “TITLE(DATA UP)/Z.RETURN(DATA DOWN)” button so that frequency is

· PAL: NORMAL --> 9.453125MHz ± 50Hz. Hi8 --> 14.18750MHz ± 50Hz.

· NTSC: NORMAL --> 9.534964MHz ± 50Hz. Hi8 --> 14.318182MHz ± 50Hz.

NOTE : Frequency changes after the confirm button is pressed.



Main PCB (Solder side)

3. Zoom VR Center

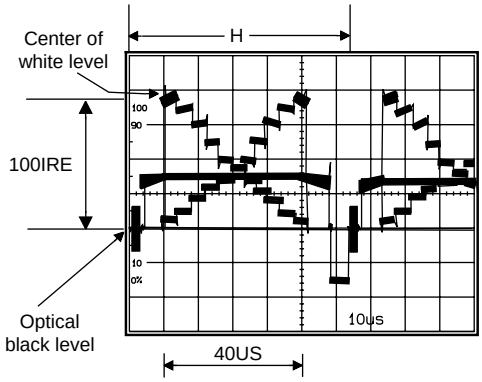
1) Camera “E-E”, 3100°K gray-scale chart.
2) Video(output) jack and EVR.
3) Connect monitor TV to video(output) jack.
4) Press the “FADE (MODE UP)/BLC (MODE DOWN)” button so that the OSD state is “OD6. ZVR.C XX XX”.
5) Press “MENU ON/OFF(CONFIRM)” button.
6) Then, the microprocessor will work ;
   - Find the Zoom VR Center position
   - Store the data to mode 0B7.

4. Auto hall

1) Camera “E-E”, 3100°K gray-scale chart.
2) Video(output) jack and EVR.
3) Connect monitor TV to video(output) jack.
4) Press the “FADE(MODE UP)/BLC(MODE DOWN)” button so that the OSD state is “OCD. HALL XX XX”.
5) Press “MENU ON/OFF(CONFIRM)” button.
6) Then, the microprocessor will work ;
   - IRIS open, HALL maximum value found,
   - IRIS closed, HALL minimum value found,
   - IRIS open, HALL maximum value found,
   - Store the data to mode 00A and mode 00B.
   - Store the HALL min./max. data to mode 0C1 and mode 0C2.

5. AUTO IRIS

1) Camera “E-E”, 3100°K gray-scale chart.
2) Video(output) jack and AF MICOM.
3) Connect video(output) jack to waveform monitor input jack and monitor TV jack respectively.
4) Press the “FADE(MODE UP)/BLC(MODE DOWN)” button so that the OSD state is “OCE. IRIS XX XX”.
5) Press “MENU ON/OFF(CONFIRM)” Button.
6) Then, the micro process will work;
   - IRIS open, IRIS control minimum Value found.
   - IRIS close, IRIS control minimum Value found.
   - Store the data to mode 0B5, 0B6, 0C7 and 0C8.
7) The OSD shows “O.K”.

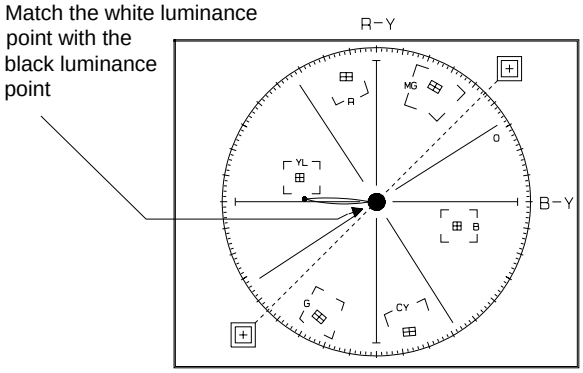


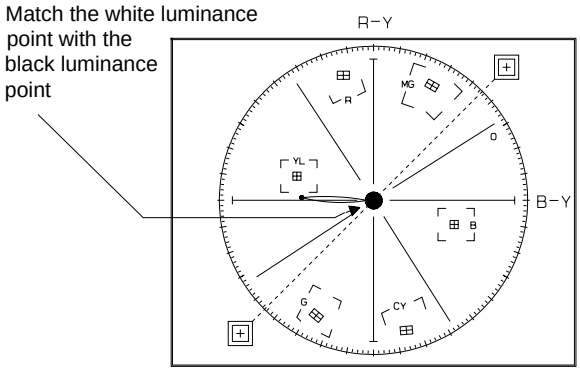
6. Auto white balance

1) Camera “E-E”, 3100°K/5100°K gray-scale chart.
2) Video(output) jack and AF MICOM.
4) Connect vectorscope input jack to video(output) jack.
3) Press the “FADE(MODE UP)/BLC(MODE DOWN)” button so that the OSD state is “0CF. AWB XX XX”.

a. W/B Indoor
a-1. Aim the camera at a 3100°K gray-scale chart illuminated at 1500 to 2000 lx. (40us)
a-2. Press “MENU ON/OFF(CONFIRM)” button so that the white vector moves to the center on screen of the vectorscope.
a-3. The OSD shows “OK!”.

b. W/B Outdoor
b-1. Aim the camera at a 5100°K gray-scale 3100°K+CCB16) chart illuminated at 1500 to 2000 lx. (40us)
b-2. Press “MENU ON/OFF(CONFIRM)” button so that the white vector moves to the center on screen of the vectorscope.
b-3. Store the data to mode 0C9, 0CA, 0CB and 0CC.
b-4. The OSD shows “OK!”.





7. Pre white balance (I)

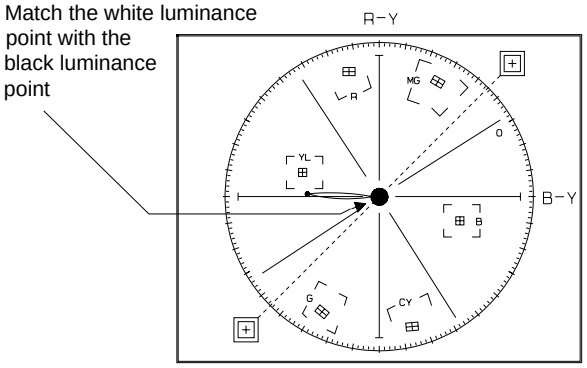
1) Camera “E-E”, 3100°K gray-scale chart.
2) Video(output) jack and AF MICOM.
3) Connect vectorscope input jack to video(output) jack.
4) Press the “FADE(MODE UP)/BLC(MODE DOWN)” button so that the OSD state is “137. XX XX”.
5) Aim the camera at a 3100°K gray-scale chart illuminated at 1500 to 2000 lx.
6) Adjust the “ TITLE(DATA UP)/Z.RETURN (DATA DOWN)” button so that the white vector moves to the B-Y axial on screen of the vectorscope.

Note : Bright dot shifts after the confirm button is pressed.

8. Pre white balance (II)

1) Camera “E-E”, 3100°K gray-scale chart.
2) Video(output) jack and AF MICOM.
4) Connect vectorscope input jack to video(output) jack.
3) Press the “FADE (MODE UP) / BLC(MODE DOWN)” button so that the OSD state is “138. XX XX”.
5) Aim the camera at a 3100°K gray-scale chart illuminated at 1500 to 2000 lx.
6) Adjust the “TITLE(DATA UP) / Z.RETURN (DATA DOWN)” button so that the white vector moves to the R-Y axial on screen of the vectorscope.

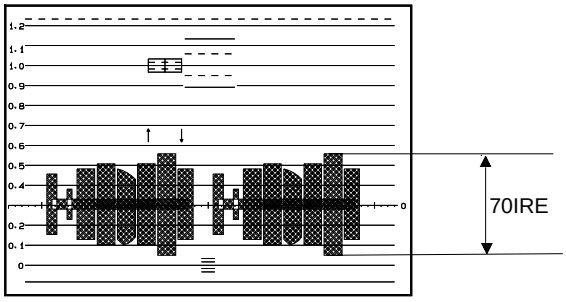
Note : Bright dot shifts after the confirm button is pressed.



9 R-Y Positive Gain

1) Camera “E-E”, 3100°K color bar chart.
2) Video(output) jack and register of EEPROM.
3) Connect video(output) jack to waveform monitor input jack and monitor TV jack respectively.
4) Press the “FADE(MODE UP) / BLC(MODE DOWN)” button so that the OSD state is “147. XX XX”.
5) Aim the camera at a color bar chart illuminated at 1500 to 2000 lx.
6) Adjust the “ TITLE(DATA UP) / Z.RETURN(DATA DOWN)” button so that the red level is 70IRE.
7) Be sure to press the “MENU ON / OFF(CONFIRM)” button to memorize setting.

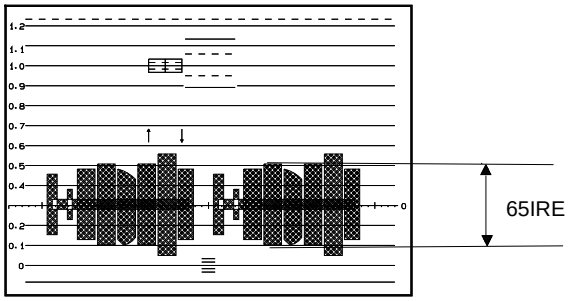
Note : Bright dot shifts after the confirm button is pressed.



10. R-Y Negative Gain

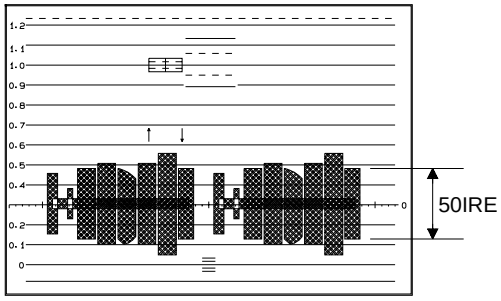
1) Camera “E-E”, 3100°K color bar chart.
2) Video(output) jack and register of EEPROM.
3) Connect video(output) jack to waveform monitor input jack and monitor TV jack respectively.
4) Press the “FADE(MODE UP) / BLC(MODE DOWN)” button so that the OSD state is “148. XX XX”.
5) Aim the camera at a color bar chart illuminated at 1500 to 2000 lx.
6) Adjust the “ TITLE(DATA UP) / Z.RETURN(DATA DOWN)” button so that the cyan level is 65IRE.
7) Be sure to press the “MENU ON / OFF(CONFIRM)” button to memorize setting.

Note : Bright dot shifts after the confirm button is pressed.



11. B-Y Positive Gain

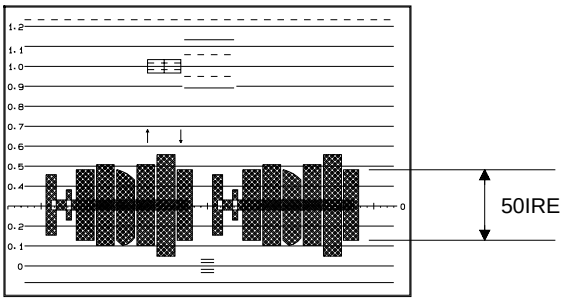
1) Camera “E-E”, 3100°K color bar chart.
2) Video(output) jack and register of EEPROM.
3) Connect video(output) jack to waveform monitor input jack and monitor TV jack respectively.
4) Press the “FADE(MODE UP) / BLC(MODE DOWN)” button so that the OSD state is “14B XX XX”.
5) Aim the camera at a color bar chart illuminated at 1500 to 2000 lx.
6) Adjust the “TITLE(DATA UP) / Z.RETURN (DATA DOWN)” button so that the blue level is 50IRE.
7) Be sure to press the “MENU ON / OFF(CONFIRM)” button to memorize setting.



12. B-Y Negative Gain

1) Camera “E-E”, 3100°K color bar chart.
2) Video(output) jack and register of EEPROM.
3) Connect video(output) jack to waveform monitor input jack and monitor TV jack respectively.
4) Press the “FADE(MODE UP)/BLC (MODE DOWN)” button so that the OSD state is “14C XX XX”.
5) Aim the camera at a color bar chart illuminated at 1500 to 2000 lx.
6) Adjust the “TITLE(DATA UP)/Z.RETURN (DATA DOWN)” button so that the yellow level is 50IRE.
7) Be sure to press the “MENU ON/OFF(CONFIRM)” button to memorize setting.

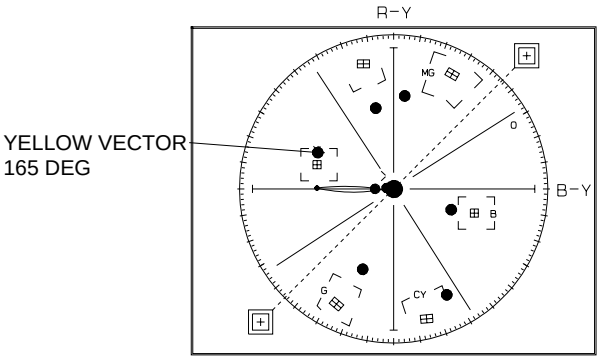
Note : Bright dot shifts after the confirm button is pressed.



13. R-Y Positive Hue

1) Camera “E-E”, 3100°K color bar chart.
2) Video(output) jack and register of EEPROM.
3) Connect video(output) jack to vectorscope input jack and monitor TV jack respectively.
4) Press the “FADE(MODE UP)/BLC(MODE DOWN)” button so that the OSD state is “149 XX XX”.
5) Aim the camera at a color bar chart illuminated at 1500 to 2000 lx.
6) Adjust the “TITLE(DATA UP)/Z.RETURN (DATA DOWN)” button so that the yellow vector is 165.
7) Be sure to press the “MENU ON/OFF (CONFIRM)” button to memorize setting.

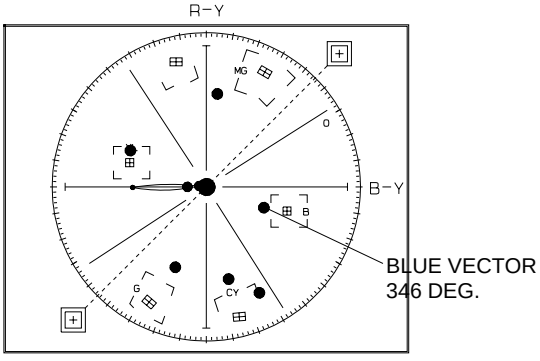
Note : Bright dot shifts after the confirm button is pressed.



14. R-Y Negative Hue

1) Camera “E-E”, 3100°K color bar chart.
2) Video(output) jack and register of EEPROM.
3) Connect video(output) jack to vectorscope input jack and monitor TV jack respectively.
4) Press the “FADE(MODE UP)/BLC(MODE DOWN)” button so that the OSD state is “14A XX XX”.
5) Aim the camera at a color bar chart illuminated at 1500 to 2000 lx.
6) Adjust the “TITLE(DATA UP)/Z.RETURN (DATA DOWN)” button so that the blue vector is 346.
7) Be sure to press the “MENU ON/OFF (CONFIRM)” button to memorize setting.

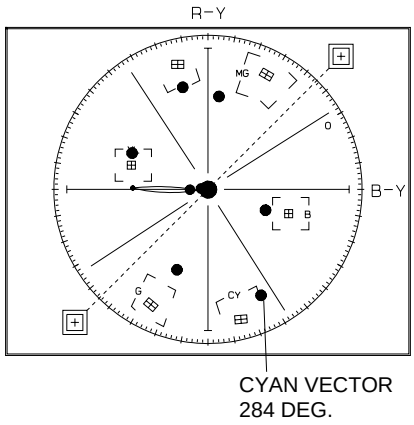
Note : Bright dot shifts after the confirm button is pressed.



15. B-Y Positive Hue

1) Camera “E-E”, 3100°K color bar chart.
2) Video(output) jack and register of EEPROM.
3) Connect video(output) jack to vectorscope input jack and monitor TV jack respectively.
4) Press the “FADE(MODE UP) / BLC(MODE DOWN)” button so that the OSD state is “14D XX XX”.
5) Aim the camera at a color bar chart illuminated at 1500 to 2000 lx.
6) Adjust the “TITLE(DATA UP) / Z.RETURN (DATA DOWN)” button so that the cyan vector is 284.
7) Be sure to press the “MENU ON / OFF (CONFIRM)” button to memorize setting.

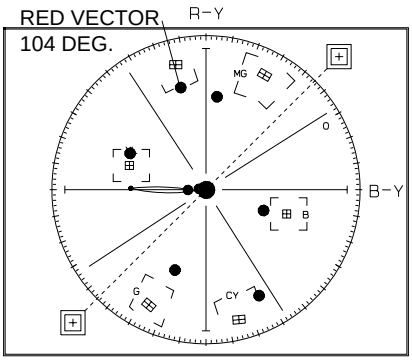
Note : Bright dot shifts after the confirm button is pressed.



16. B-Y Negative Hue

1) Camera “E-E”, 3100°K color bar chart.
2) Video(output) jack and register of EEPROM.
3) Connect video(output) jack to vectorscope input jack and monitor TV jack respectively.
4) Press the “FADE(MODE UP) / BLC(MODE DOWN)” button so that the OSD state is “14E XX XX”.
5) Aim the camera at a color bar chart illuminated at 1500 to 2000 lx.
6) Adjust the “TITLE(DATA UP) / Z.RETURN (DATA DOWN)” button so that the red vector is 104.
7) Be sure to press the “MENU ON / OFF(CONFIRM)” button to memorize setting.

Note : Bright dot shifts after the confirm button is pressed.



4-2-3 CVF Adjustment

Notes :

1. After each adjustment step is completed, OSD shows “OK”.
2. EEPROM(ICV02) stores confirmed adjustment value of each adjustment step.
3. After finishing the adjustment, reset the main power source (OFF-ON) to memorize the adjustment data in EEPROM.
4. Remote controller is used as a CVF adjust tool.

4-2-3 (a) PREPARATION

1. How to get into the CVF adjust mode.

STEP1

Short the two lands on the CVF PCB by solder to Ground. (They are displayed on page 4-31)

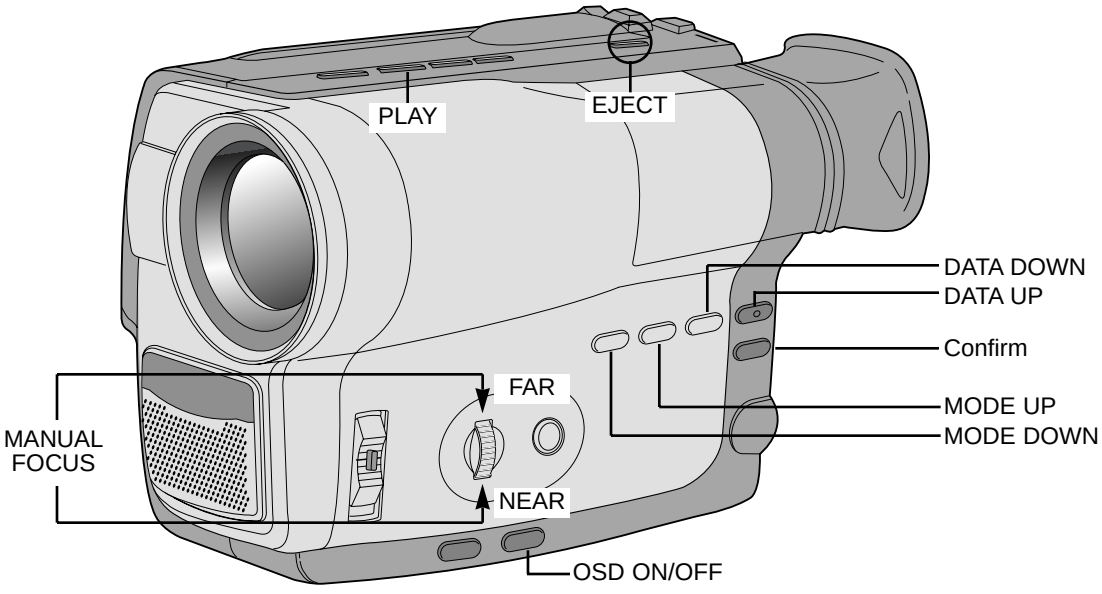
STEP2

1. Connect the power source (battery / DC cable).
2. Set the mode switch of the camcorder to “PLAY” position.
3. Set OSD on state.
4. Press and hold the “EJECT” button and “PLAY” button on the camcorder at the same time for more than 5 seconds. Then unit goes into service mode.

STEP3

MONITOR OSD shows “8. PLL EPR XX. EVR XX”. Then CVF adjustment mode has been activated successfully.

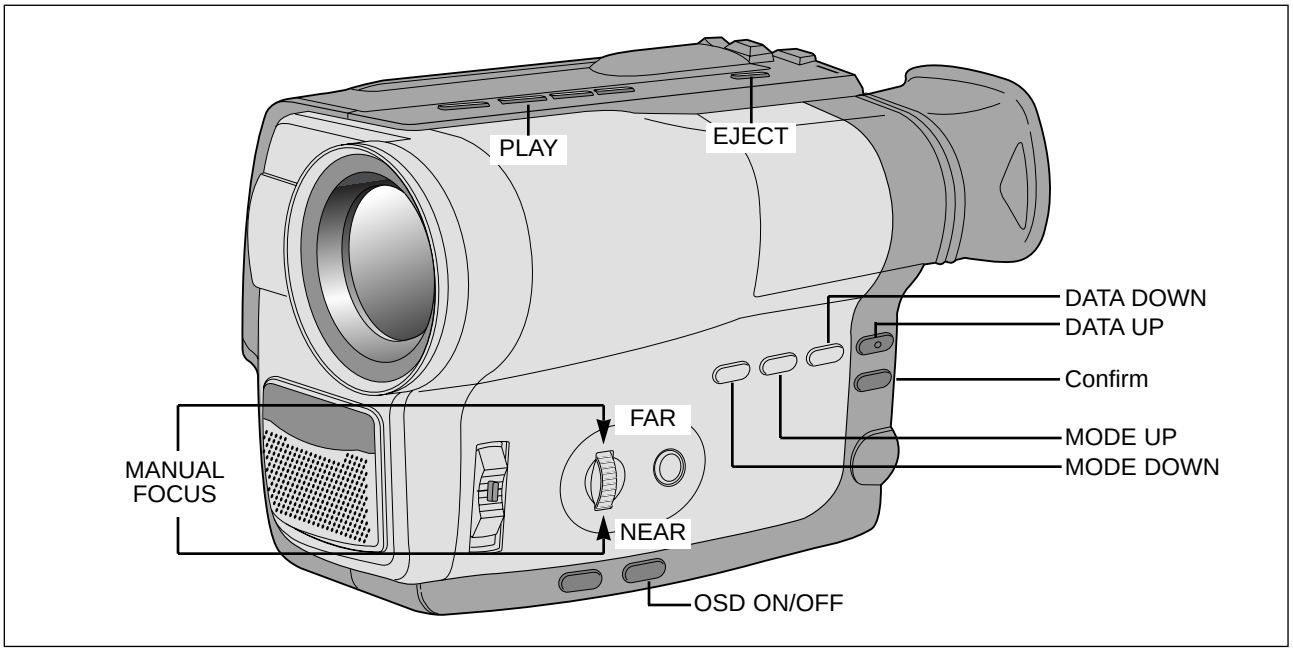
8 PLL
EPR : XX EVR : XX



Note : When XX XX is shown in service adjustment procedures, this indicates variable values.

2. The following chart shows the function of each button. In service adjustment mode, button names are different from those in customer camera function control mode. EX)ON / OFF button is the same as confirm.

Button	Function
FADE	When change the adjustment mode.
BLC	
TITLE	When change data value of adjust state.
Z.RETURN	
ON/OFF	Data store after finishing adjustment by “DATA UP/DATA DOWN” button



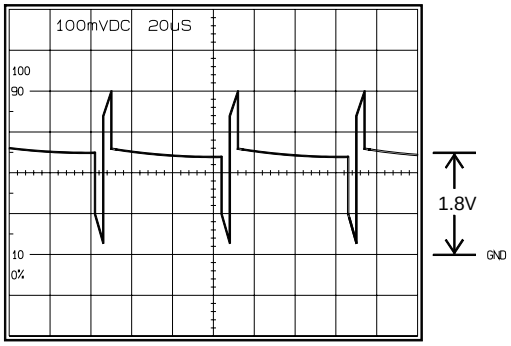
ADDRESS	MODE	NTSC	PAL	MEAN	REMARK
0	TINT	88	65	TINT	ADJUST
1	COLOR	65	75	COLOR GAIN	ADJUST
2	BRIGHT	88	88	BRIGHT	ADJUST
3	CONTRAST	60	60	CONTRAST	FIXED
4	B SUB	8A	80	B-SUB	ADJUST
5	R SUB	8A	80	R-SUB	ADJUST
6	GAMMA 1	75	75	GAMMA1 GAIN	FIXED
7	GAMMA 2	B1	B1	GAMMA2 GAIN	FIXED
8	PLL	60	60	PLL	ADJUST
9	MODE 1	02	0E	PAL/NTSC	FIXED
A	MODE 2	00	00	NORMAL/TEST	FIXED
B	MODE 3	F5	F5	HD-POSITION	FIXED

NOTE : PLL --> BRIGHT --> R-SUB --> B-SUB --> COLOR --> TINT

4-2-3 (b) ADJUSTMENT

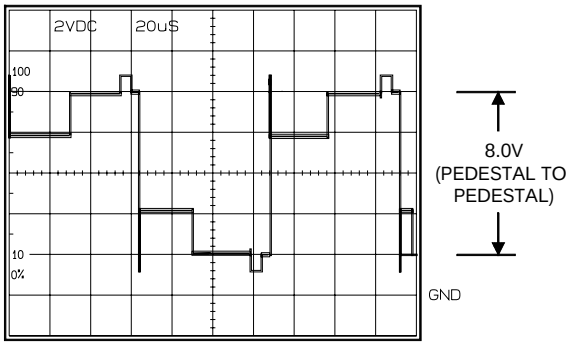
1. PLL (ADDRESS : 8.PLL)

1) Connect an multimeter probe to TP-P
2) Adjust the EVR so that DC voltage is DC1.8±0.05Vp-p.



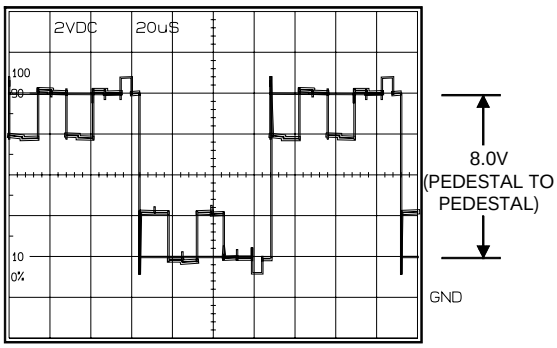
2. Brightness (ADDRESS : 2.BRIGHT)

1) Connect an oscilloscope probe to TP-G.
2) Adjust EVR so that bright(Green) level is 8.0V±0.1Vp-p (pedestal to pedestal).



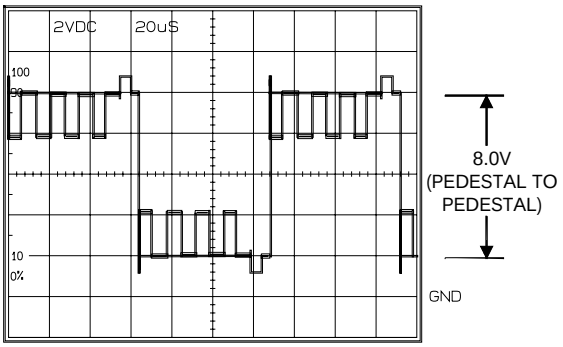
3. R-Sub Brightness (ADDRESS : 4.R-SUB)

1) Connect an oscilloscope probe to TP-R
2) Adjust the EVR so that R-OUT(Red) level is 8.0Vp-p (pedestal to pedestal).



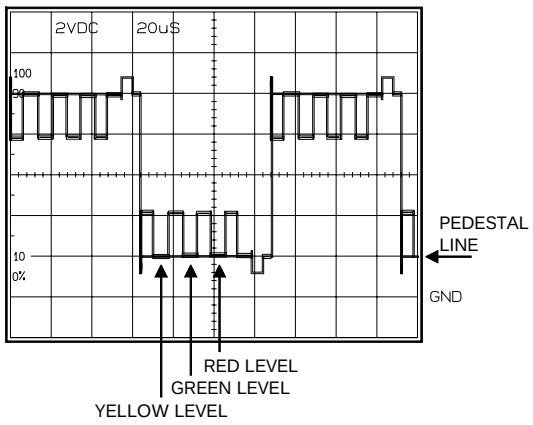
4. B-Sub Brightness (ADDRESS : 5.B-SUB)

1) Connect an oscilloscope probe to TP-B.
2) Adjust the EVR so that B OUT(Blue) level is 8.0Vp-p (pedestal to pedestal).



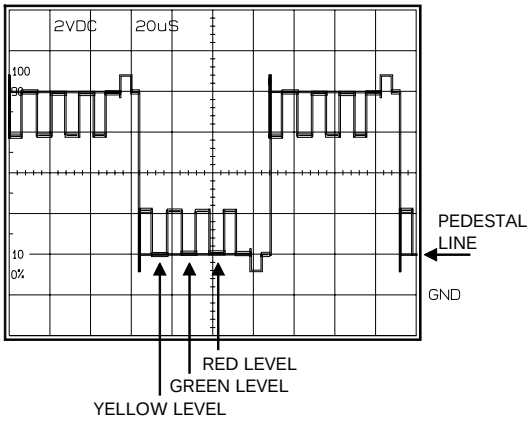
5. Color(ADDRESS : 1.COLOR)

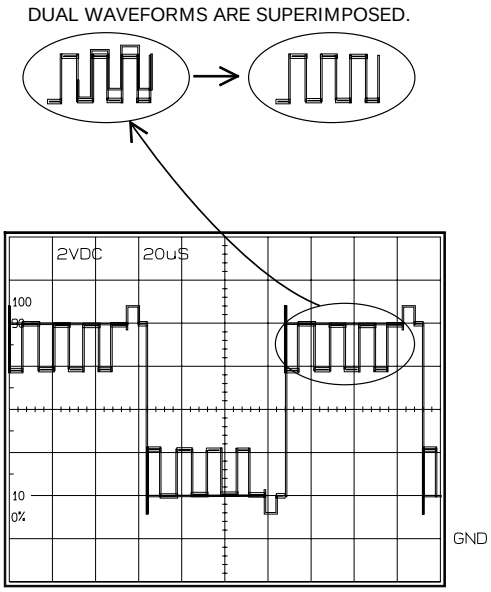
1) Connect an oscilloscope probe to TP-B.
2) Adjust the EVR so that the Yellow level is equal to the pedestal line.



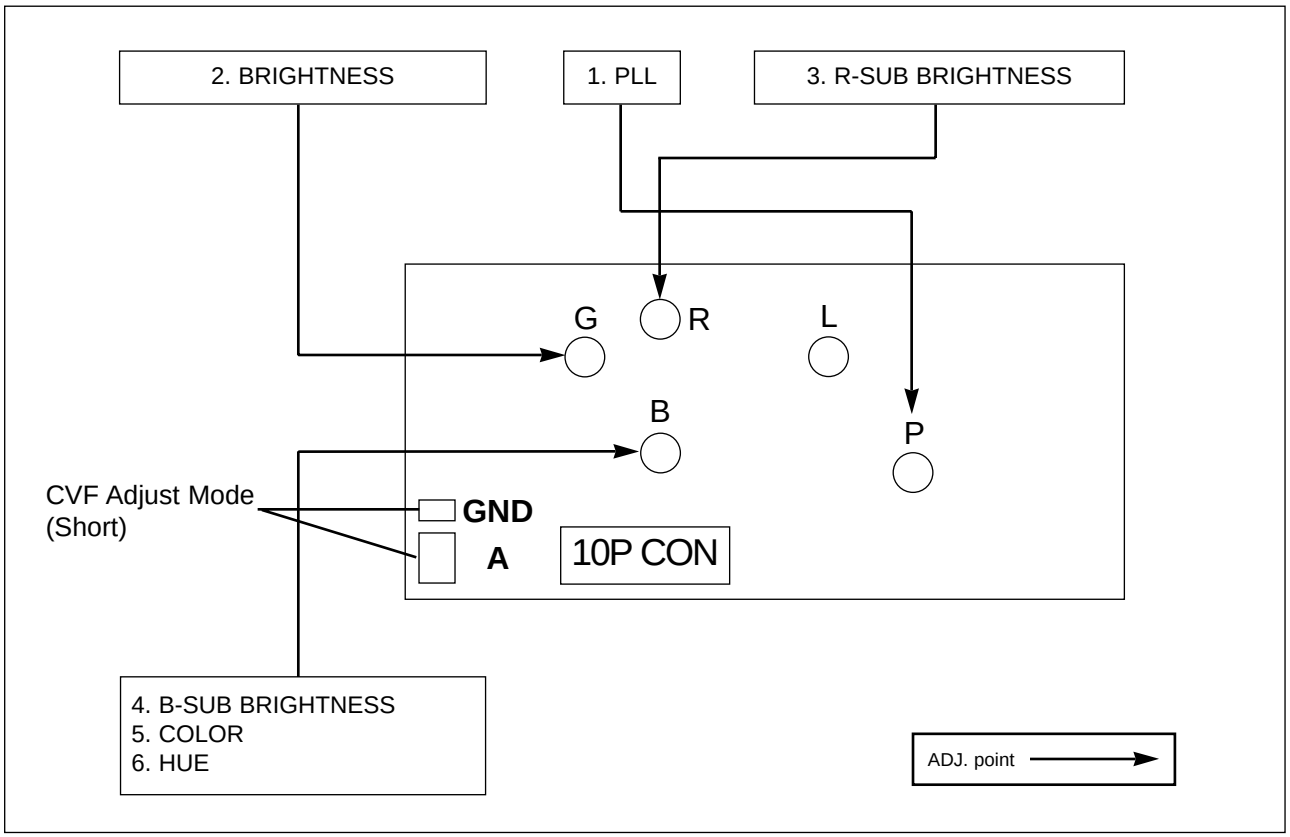
6. TINT(ADDRESS : 0.TINT)

1) Connect an oscilloscope probe to TP-B.
2) Adjust the EVR so that the dual waveforms are superimposed.(PAL MODEL)
3) Adjust the EVR so that the bright(Green) level is equal to the Red level.(NTSC MODEL)





Note : When adjusting CVF be sure to short circuit between Ground and "A"part to store the confirmed data in EEPROM when pushing ON/OFF button.



4-2-4 EVF Adjustment

Notes :

1. For EVF adjustment, use the buttons on set and remote controller.
2. After each adjustment step is completed, OSD shows “OK”.
3. EEPROM(ICV02) stores confirmed adjustment value of each adjustment step.
4. After finishing the adjustment, turn power off.

4-2-4 (a) PREPARATION

1. How to get into the EVF adjust mode.

STEP1

1. Connect the power source (battery / DC cable).
2. Set the mode switch of the camcorder to “PLAY” position.
3. Connecting the AV JACK of the camcorder to monitor makes OSD appear.

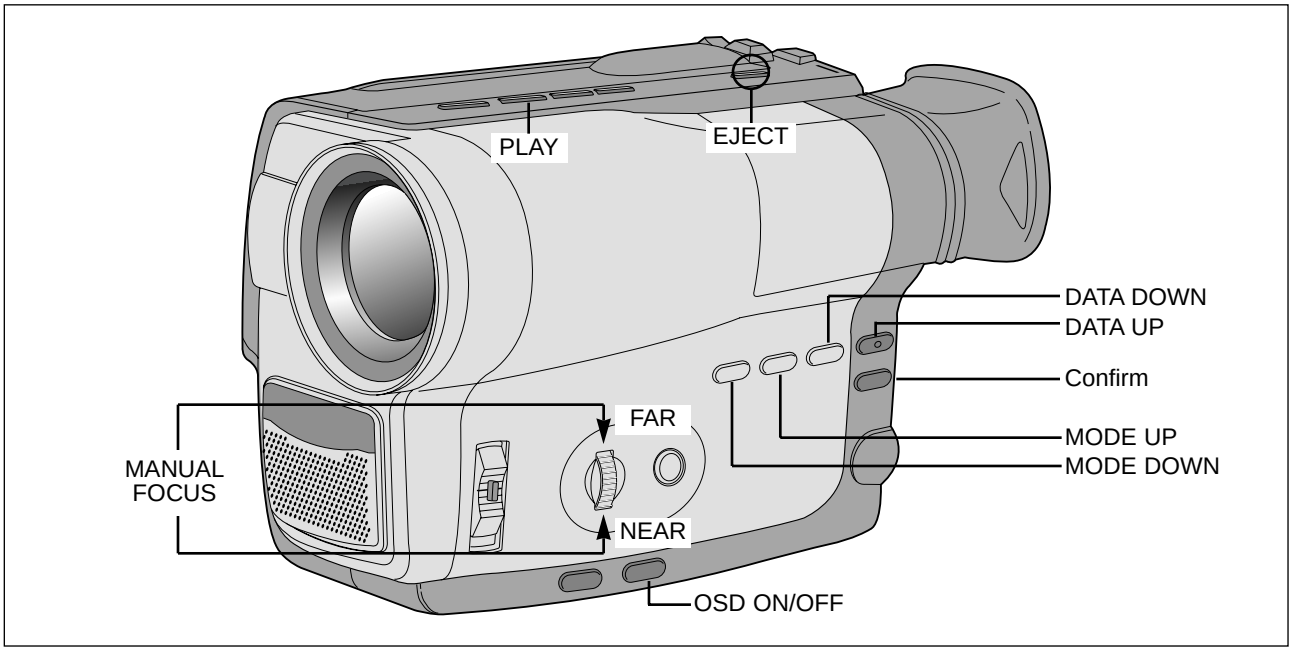
STEP2

Press and hold the “EJECT” button and “PLAY” button on the camcorder at the same time for more than 5 seconds.

0 USER BRT.
EPR : XX EVR : XX

Monitor OSD shows “0 USER BRT EPR XX. EVR XX”. Then EVF adjustment mode has been activated successfully.

Notes : "XX" indicates variable values.



Notes : When XX XX is shown in service adjustment procedures, this indicates variable values.

2. The following chart shows the function of each button.

Button	Function
FADE	When change the adjustment mode.
BLC	
TITLE	When change data value of adjust state.
Z.RETURN	
ON/OFF	Data store after finishing adjustment by “DATA UP/DATA DOWN” button

Notes : In service adjustment mode, button names are different from those in customer function control mode.

3. Adjustment mode table

ADDRESS	MODE	NTSC	PAL	MEAN	REMARK
0	USER BRHT	4B	4B	BRIGHT	ADJUST
1	S SUB R	80	80	R-SUB BRHT	FIXED
2	R SUB B	80	80	B-SUB BRHT	FIXED
3	CONTRAST	88	88	CONTRAST	ADJUST
4	S CONT R	99	99	R-SUB CONT	FIXED
5	S CONT B	99	99	B-SUB CONT	FIXED
6	GAMMA 2	70	70	GAMMA 2	FIXED
7	GAMMA 1	92	92	GAMMA 1	FIXED
8	ONLY 0	00	00	ONLY 00	FIXED
9	COM DC	7A	7A	VCOM	FIXED
A	COLOR	80	80	COLOR	ADJUST
B	HUE	80	80	TINT	FIXED
C	W/B LMT	1B	1B	W/B LIMIT	FIXED
D	FIL/LPF	00	00	FIL/LPF	FIXED
E	PIC/GAIN	00	00	PICTURE/GAIN	FIXED
F	MODE/PLL	0C	0C	MODE/PLL	ADJUST
10	SYNC GEN	00	00	SYNC GEN	FIXED
11	Y MIRROR	00	01	NTSC/PAL	FIXED
12	OUT INV	00	00	OUT INV	FIXED
13	X MIRROR	00	00	UP/DOWN	FIXED
14	H POSI	10	10	H-POSITION	FIXED
15	HDO OUT	00	00	HDO OUT	FIXED

4-2-4 (b) ADJUSTMENT

1. PLL

1) TP-L & EVR
1) Connect an voltmeter to TP-L
2) Adjust the EVR so that DC voltage is DC1.6±0.2Vp-p.

2. VCOM

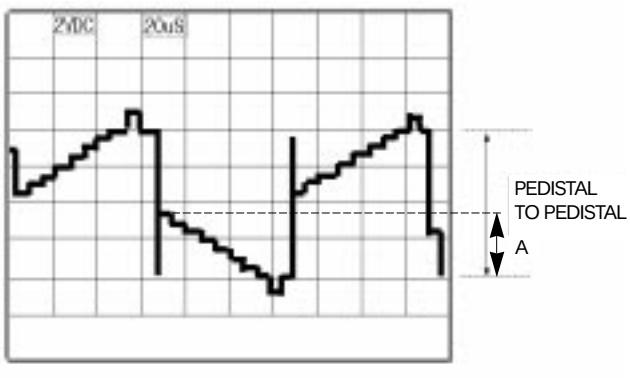
1) TP-L & EVR
2) Connect an voltmeter to TP-L.
3) Adjust the EVR so that DC voltage is 5.6±0.05Vp-p (pedestal to pedestal).

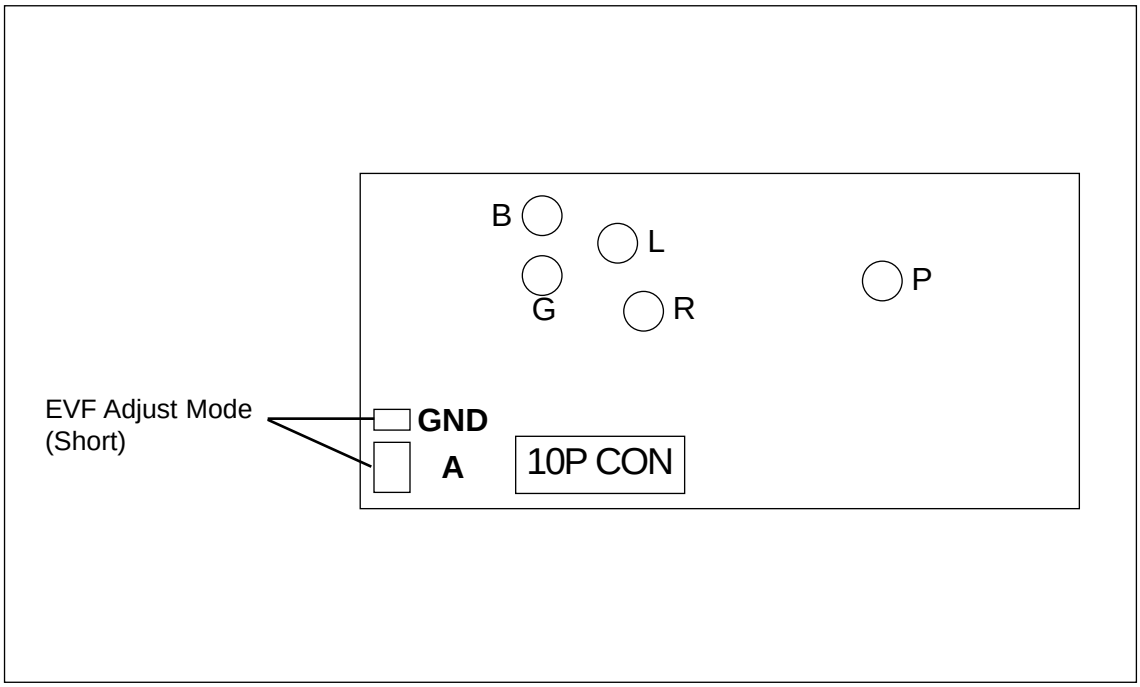
3. Brightness

1) TP-G & EVR
2) Connect an oscilloscope probe to TP-G.
3) Adjust the EVR so that bright level is 8.0Vp-p (pedestal to pedestal).

4. CONTRAST

1) TP-B & EVR
2) Connect an oscilloscope probe to TP-B.
3) Adjust the EVR so that A level is 2.0Vp-p (pedestal to pedestal).





Note : When adjusting EVF be sure to short circuit between Ground and "A"part to store the confirmed data in EEPROM when pushing ON/OFF button.
After finishing the adjustment, you have to reset.

4-3. VCR Section Adjustment

4-3-1 Preparations

1. Equipment :

1) Monitor TV.
2) Dual trace oscilloscope of over 20MHz band, incorporates delay mode.
   (Use 10 : 1 probe unless otherwise specified.)
3) Frequency counter
4) DC power supply.
5) Alignment tape (Colour bar : SP)
6) 8mm Video Tape for record.

2. Composition of VCR P.C.Boards

1) Main PCB (DC / DC connector, system control, servo, video, audio, camera)
2) Rear PCB
3) Function PCB
4) Front PCB

3. How to get into service "**ADJUST**" mode.

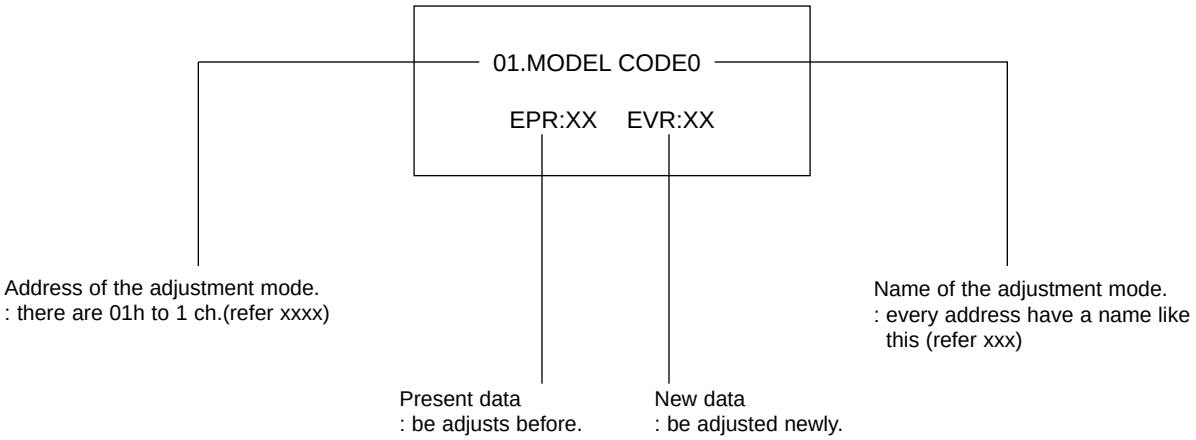
STEP 1

1. Connect the power source (battery/DC cable).
2. Set the power switch of the camcorder to PLAYER position.
3. Press the eject key to eject mode.

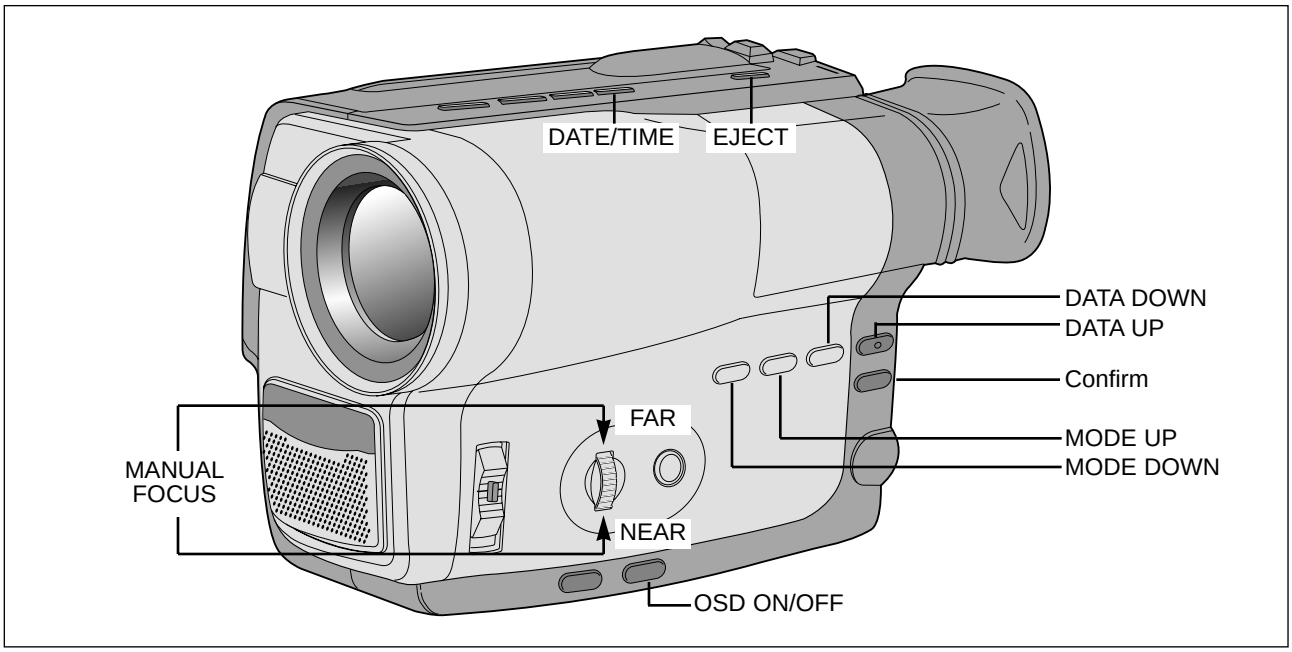
STEP 2

1. Press and hold "STOP(DATE/TIME)" button on the Camcorder and "EJECT" button on the Camcorder at the same time for more than 5 seconds.
2. If the color bar generated internally appears on the monitor and adjustment mode displayed like the figure below, VCR adjustment mode has been successfully activated.
3. Insert tape into housing ass'y and then perform the adjustments.

TV or EVF/CVF monitor


01.MODEL CODE0
EPR:XX EVR:XX
Address of the adjustment mode.
: there are 01h to 1 ch.(refer xxxx)
Name of the adjustment mode.
: every address have a name like this (refer xxx)
Present data
: be adjusts before.
New data
: be adjusted newly.

4. The location of function button.



Note : In service adjustment mode, button name are different from those in customer function control mode.
EX) "MENU ON / OFF " button is the same as CONFIRM.

5. If you want to finish the adjustment mode, you have to do Battery Reset.
The Battery Reset means that you pull out the power source and pull in it again.
Then, the adjustment ended and the camcorder works normally.

4-3-2 VCR Section

Note 1 : From this point forward, the structure of every adjustment is as follows.

Step	Adjustment Item
1. Mode and input signal / alignment tape 2. Test point and ADJ. part 3. Result and Remarks	

ADJ. point

Test point

Note 2 : How to connect video out signal.

-Connect the video cable to ass'y A / V Jack.

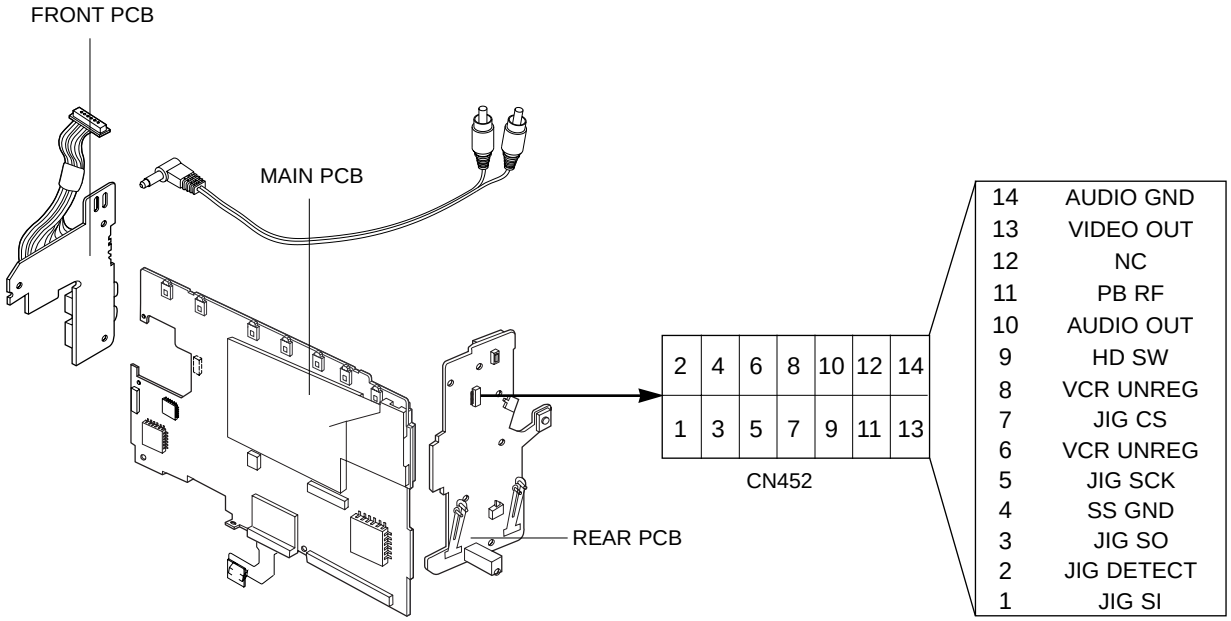


Fig. 1 Video Signal Connection

Note 3 : How to record -1. Insert a recordable tape.
-2. Press the SW474 (START / STOP) button on the Rear board in the adjustment mode.

4-3-3 Adjustment

1. Kinds of adjustment

ADDRESS	NAME	NORMAL MODEL		HI 8 MODEL	
		NTSC	PAL	NTSC	PAL
01	MODEL CODE0	Model code setting			
02	MODEL CODE1	Model code setting			
03	HD SWP	Adjustment			
04	COLOR BAR LEVEL	8B	8B	8B	8B
05	Y-EMPHASIS IN (NOR)	Adjustment			
06	PB OUT-LEVEL (NOR)	Adjustment			
07	Y-EMPHASIS IN (HI8)	-	-	Adjustment	
08	PB OUT LEVEL (HI8)	-	-	Adjustment	
09	VIDEO OUT LEVEL	Adjustment			
0A	Y-FM CARRIER (NOR)	Adjustment			
0B	Y-FM DEVIAT (NOR)	Adjustment			
0C	Y-FM CARRIER (HI8)	-	-	Adjustment	
0D	Y-FM DEVIAT (HI8)	-	-	Adjustment	
0E	AUDIO BPF-ADJ	Adjustment			
0F	C-EMPHASIS	CD	CD	A9	CD
10	WHITE CLIP (NOR)	80	80	80	80
11	REC C LEVEL	B0	99	C0	D0
12	REC Y FM LEVEL	C9	C9	A8	A8
13	PB DEL ADJ	65	65	85	85
14	D CLIP (NOR)	65	65	65	65
15	DEL ADJ	85	65	85	85
16	SMEAR CONT	99	99	90	90
17	MTQ (PB)	-	-	D0	D0
18	MTF0 (NOR)	-	-	7A	7A
19	WHITE CLIP (HI8)	-	-	60	55
1A	MTF0 (HI8)	-	-	9A	9A
1B	D CLIP (HI8)	-	-	8E	8E
1C	MODEL CODE	-	-	-	-
1D	TITLE LANGUAGE	-	-	-	-
1E	HD SWP (SUB DATA)	0C	0C	0C	0C
1F	BATTERY END LEVEL	91	91	91	91
1C	ATF REF.	-	-	-	-

2. Adjustment

* Please keep the order according to explanation.

TAPE	NONE
EQUIPMENT	POWER SOURCE
OTHER	NONE
TEST POINT	NONE
ADDRESS	01
NAME	MODEL CODE0

2-1. Model Code 0

a. Preparation

b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the “FADE(MODE UP)” or “BLC(MODE DOWN)” button of FUNCTION so as to select the address 01.
e. Press the “Z.RETURN(DATA DOWN)/ TITLE(DATA UP)” so that OSD shows“ ”ERR:XX EVR: XX” “XX” is different dependent on the model as below.

Model Name	Addressed code	Model Name	Addressed code
VP-M50	02	SCM50	02
VP-M51	02	SCM51	02
VP-M51B	02	SCM52	0A
VP-M52	0A	SCM53	3B
VP-M53	33		
VP-M54	77		

f. Be sure to press the “MENU(CONFIRM)” button on FUNCTION to memorize setting.
g. Reset the power source so as to fix the new data to the camcorder’s EEPROM.

2-2. Model Code 1

a. Preparation
b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the “FADE(MODE UP)” or “BLC(MODE DOWN)” button of FUNCTION so as to select the address 02.
e. Press the “Z.RETURN(DATA DOWN)/ TITLE(DATA UP)” so that OSD shows“ ”ERR:XX EVR: XX” “XX” is different dependent on the model as below.

Model Name	Addressed code	Model Name	Addressed code
VP-M50	84	SCM50	82
VP-M51	C4	SCM51	84
VP-M51B	C5	SCM52	C4
VP-M52	C4	SCM53	C4
VP-M53	C4		
VP-M54	C4		

2-3. Head Switching Point

: This adjustment is performed after the replacement of deck mechanism.
• Without this adjustment, there will be a noise in playback picture.

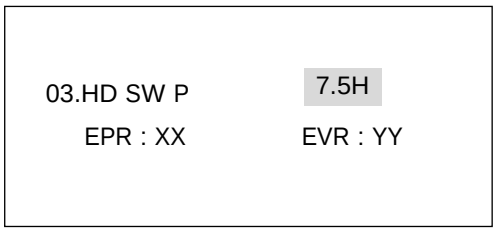
a. Preparations

TAPE	STANDARD COLOR BAR TAPE RECORDED WITH SP SPEED *PAL
EQUIPMENT	POWER SOURCE
OTHER	NONE
TEST POINT	NONE
ADDRESS	03
NAME	HD SWP

b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the “FADE(MODE UP)” or “BLC(MODE DOWN)” button of FUNCTION so as to select the address 03.
e. Insert the Standard Color Bar Tape and press the “PLAY” button.

Note : If there is no video out, when you pressed the “PLAY” button, you can not adjust the Head Switching Point.
It may be caused by maladjusted VIDEO block.
In this case, adjust the VIDEO block before the Head Switching Point.
VIDEO block adjustments are 2-3~2-11.

f. The data of Head Switch is set to 7.2H~7.7H automatically.



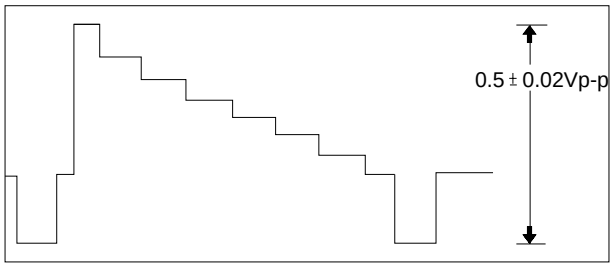
g. Be sure to press the “MENU(CONFIRM)” button on FUNCTION to memorize setting.
h. Reset the power source so as to fix the new data to the camcorder’s EEPROM.

TAPE	8MM (NORMAL) TAPE
EQUIPMENT	OSCILLOSCOPE
OTHER	
TEST POINT	IC 201 PIN 13
ADDRESS	05
NAME	Y-EMPHASIS IN (NOR)

2-4. Adjusting Y-Emphasis Input (NORMAL)

: This adjustment is performed to set the Y level which is recorded in tape.
Maladjusted Y level impact to the next adjustment.

a. Preparations
b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the "FADE(MODE UP)" or "BLC(MODE DOWN)" button of FUNCTION so as to select the address 05.
e. Insert a Normal Tape to the camcorder.
f. Connect the oscilloscope to the addressed Test Point.
g. Press the "Z.RETURN(DATA DOWN)/ TITLE(DATA UP)" button so that the IC201 PIN13 is 0.5±0.02Vp-p from SYNC tip to peak level.



h. Be sure to press the "MENU(CONFIRM)" button on FUNCTION to memorize setting.
i. Reset the power source so as to fix the new data to the EEPROM.

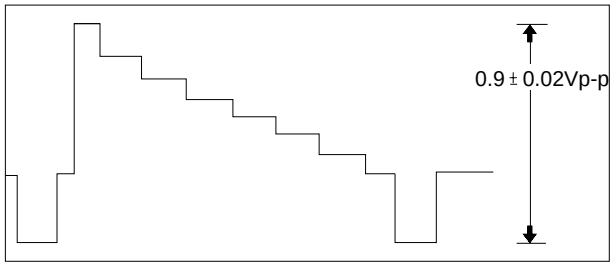
2-5. PB OUT LEVEL (NORMAL)
(Hi8 NORMAL PLAY BACK)
(NOMAL PLAY BACK OF Hi8 SET)

: This adjustment is perform to set the A/D input level to the regulated level.

a. Preparations

TAPE	STANDARD COLOR BAR TAPE RECORDED WITH SP SPEED *PAL
EQUIPMENT	OSCILLOSCOPE
TEST POINT	Q272 EMITTER
	R248 (Hi8 : NORMAL PLAYBACK)
ADDRESS	06
NAME	PB OUT-LEVEL (NOR)

b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the "FADE(MODE UP)" or "BLC(MODE DOWN)" button of FUNCTION so as to select the address 06.
e. Insert the Standard Color Bar Tape and press the "PLAY" button.
f. Connect the oscilloscope to the addressed Test Point.
g. Press the "Z.RETURN(DATA DOWN)/ TITLE(DATA UP)" button so that the Q272 Emitter is 0.9±0.02Vp-p from SYNC to peak level.



h. Be sure to press the "MENU(CONFIRM)" button on FUNCTION to memorize setting.
i. Reset the power source so as to fix the new data to the camcorder's EEPROM.

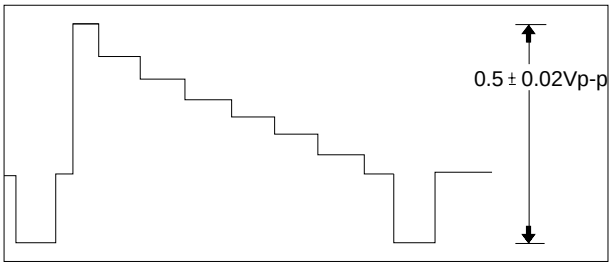
2-6. Y-EMPHASIS INPUT (HI8)

a. Preparations

TAPE	HI8 TAPE
EQUIPMENT	OSCILLOSCOPE
OTHER	NONE
TEST POINT	IC201 PIN13
ADDRESS	07
NAME	Y-EMPHASIS IN (HI8)

b. Connect a power source.
c. Get into the VCR adjustment mode.

d. Press the “FADE(MODE UP)” or “BLC(MODE DOWN)” button of FUNCTION so as to select the address 07.
e. Insert the Hi-8 tape to the camcorder
f. Connect the oscilloscope to the addressed Test Point.
g. “Z.RETURN(DATA DOWN)/TITLE(DATA UP)” button so that the IC201 PIN13 is 0.5±0.02Vp-p from SYNC tip to peak level.



h. Be sure to press the “MENU(CONFIRM)” button on FUNCTION to memorize setting.
i. Reset the power source so as to fix the new data to the camcorder’s EEPROM.

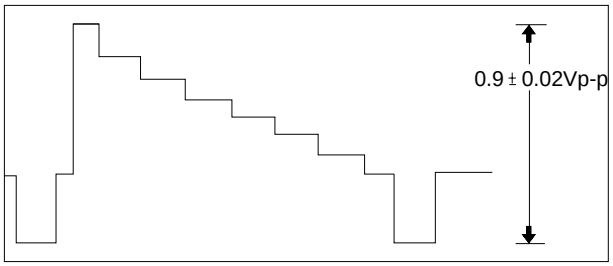
2-7. PB Output Level (Hi8)

: This adjustment is performed to set the A/D input level to the regulated level.

a. Preparations

TAPE	STANDARD COLOR BAR TAPE RECORDED WITH SP SPEED *PAL
EQUIPMENT	OSCILLOSCOPE
TEST POINT	R248
ADDRESS	06
NAME	PB OUT-LEVEL (NOR)

b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the “FADE(MODE UP)” or “BLC (MODE DOWN)” button of FUNCTION so as to select the address 08.
e. Insert a Hi-8 standard color bar tape and press the PLAY button.
f. Connect the oscilloscope counter to the addressed Test Point.
g. Press the “Z.RETURN(DATA DOWN)/TITLE(DATA UP)” button so that the CN452 PIN13 is 0.9±0.02Vp-p from SYNC to peak level.



h. Be sure to press the “MENU(CONFIRM)” button on FUNCTION to memorize setting.
i. Reset the power source so as to fix the new data to the camcorder’s EEPROM.

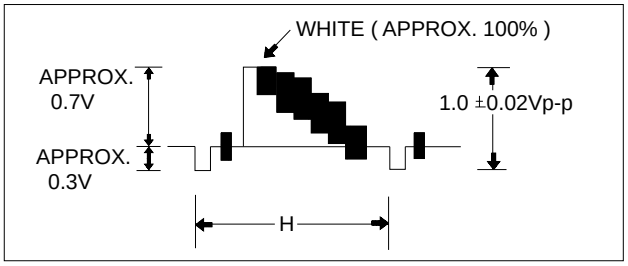
2-8. VIDEO Out Level

: This adjustment is performed to set the VIDEO out level to the regulated level.

a. Preparations

TAPE	STANDARD COLOR BAR TAPE RECORDED WITH SP SPEED
EQUIPMENT	OSCILLOSCOPE
OTHER	CONNET THE MOINTER(75Ω)
TEST POINT	CN452 PIN13
ADDRESS	09
NAME	VIDEO OUT LEVEL

b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the “FADE(MODE UP)” “BLC (MODE DOWN)” button of FUNCTION so as to select the address 09.
e. Insert a standard color bar tape and press the PLAY button.
f. Connect the oscilloscope counter to the addressed Test Point.
g. Press the “Z.RETURN(DATA DOWN)/TITLE(DATA UP)” button so that the CN452 PIN13 is 1.0±0.02Vp-p from SYNC to peak level.



h. Be sure to press the “MENU(CONFIRM)” button on FUNCTION to memorize setting.
i. Reset the power source so as to fix the new data to the camcorder’s EEPROM.

2-9. Y-FM Carrier (NOR)

: This adjustment is performed to set the sync-tip level of the composite video signal. Maladjusted Y-FM carrier impact to the playback picture, there may be black or white dot noise.

a. Preparations

TAPE	NORMAL TAPE FOR RECORDING
EQUIPMENT	OSCILLOSCOPE
OTHER	NONE
TEST POINT	IC201 PIN41
ADDRESS	0A
NAME	Y-FM CARRIER (NOR)

b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the “FADE(MODE UP)” “BLC (MODE DOWN)” button of FUNCTION so as to select the address 0A.
e. Insert a Normal Tape to the camcorder.
f. Press the “START/STOP” button on the Rear board so as to set the camcorder to RECORDING mode.
g. Connect the frequency counter to the addressed Test Point.
h. Press the “Z.RETURN(DATA DOWN)/ TITLE(DATA UP)” button so as to set the frequency to 4.38MHz±0.02MHz.
i. Be sure to press the “MENU(CONFIRM)” button of FUNCTION to memorize setting.
j. Reset the power source so as to fix the new data to the camcorder’s EEPROM.

2-10. Y-FM DEVIATION (NOR)

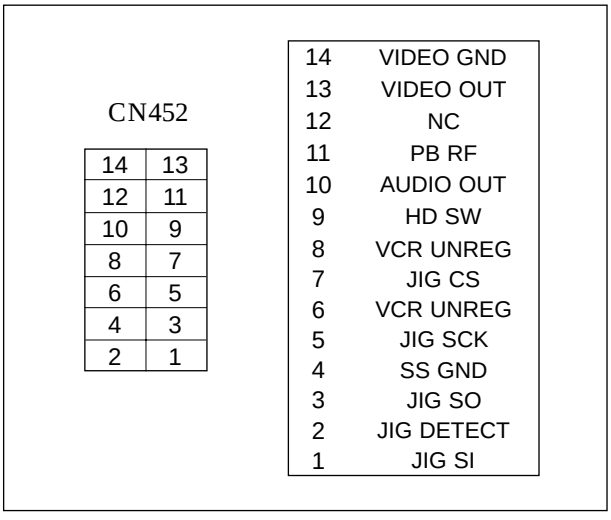
: This adjustment sets the Y-FM modulation level in recording. For adjustment, playback the self-recorded signal and observe the VIDEO OUT signal.

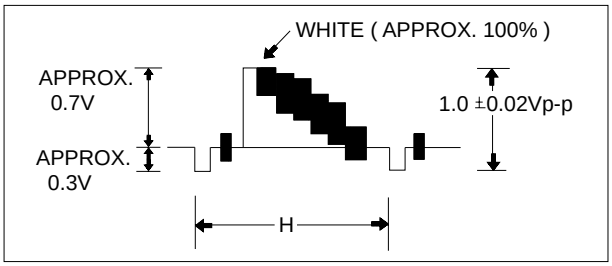
* Note : It is a little difficult to adjust because you can check the waveform in playback mode even though the adjustment is performed in VCR record mode.
So you have to do it carefully.

a. Preparations

TAPE	NORMAL TAPE FOR RECORDING
EQUIPMENT	OSCILLOSCOPE
OTHER	NONE
TEST POINT	CN452 PIN13
ADDRESS	0B
NAME	Y-FM DEVIAT (NOR)

b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the “FADE(MODE UP)” or “BLC(MODE DOWN)” button of FUNCTION so as to select the address 0B.
e. Insert a NORMAL Tape to the camcorder.
f. Press the “START/STOP” button on the Rear board so as to set the camcorder to RECORDING mode.
g. Record for enough time to check the waveform when you playback where you recorded in step f).
* 1 minute may be enough to check the waveform in playback mode.
h. Connect the oscilloscope to the addressed Test Point.
i. Make sure that the waveform is to be as below. If OK, go to step l).
j. In case of the waveform level is bigger than 1Vp-p, press the Data Down button so as to set to down the waveform level and if the waveform level smaller than 1Vp-p, press the Data Up button so as to set to up the waveform level.
k. Repeat step g), h), i).





l. Be sure to press the “MENU(CONFIRM)” button on FUNCTION to memorize setting.
m. Reset the power source so as to fix the new data to the camcorder’s EEPROM.2-11. Y-FM Carrier (Hi8)

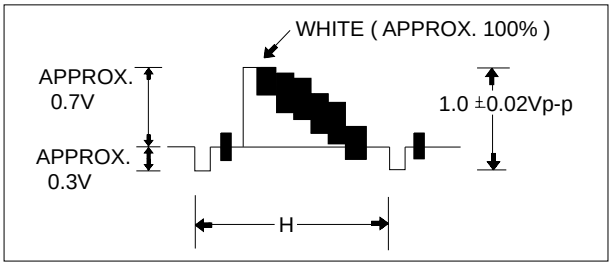
2-11. Y-FM Carrier (Hi8)

: This adjustment is performed to set the sync-tip level of the composite video signal. Maladjusted Y-FM carrier impact to the playback picture, there may be black or white dot noise.

a. Preparations

TAPE	HI8 TAPE FOR RECORDING
EQUIPMENT	FREQUENCY COUNTER
OTHER	NONE
TEST POINT	IC 201 PIN 13
ADDRESS	OC
NAME	Y-FM CARRIER (HI-8)

b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the “FADE(MODE UP)” or ”BLC(MODE DOWN)” button of FUNCTION so as to select the address OC.
e. Insert aHi-8 Tape to the camcorder.
f. Press the “START/STOP” button on the Rear board so as to set the camcorder to RECORDING mode.
g. Connect the frequency counter to the addressed Test Point.
h. Press the “Z.RETURN(DATA DOWN)/ TITLE(DATA UP)” button so as to set the frequency to 5.99MHz ±0.02MHz



i. Be sure to press the “MENU(CONFIRM)” button on FUNCTION to memorize setting.
j. Reset the power source so as to fix the new data to the camcorder’s EEPROM.

2-12. Y-FM Deviation (Hi8)

: This adjustment sets the Y_FM modulation level in recording. For adjustment, playback the self-recorded signal and observe the VIDEO OUT signal.

Note : It is a little difficult to adjust because you can check the waveform in playback mode even though the adjustment is performed in VCR record mode.
So you have to do it carefully.

a. Preparations

TAPE	HI-8 TAPE FOR RECORDING
EQUIPMENT	OSCILLOSCOPE
OTHER	NONE
TEST POINT	CN452 PIN13
ADDRESS	OD
NAME	Y-FM DEVIAT (HI8)

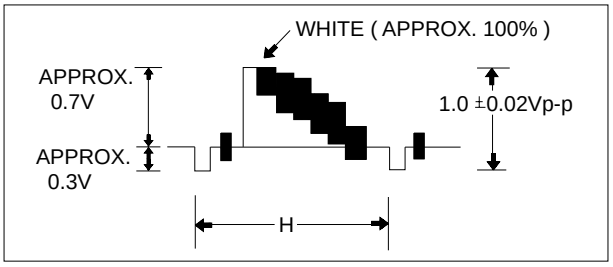
b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the “FADE(MODE UP)” or “BLC(MODE DOWN)” button of FUNCTION so as to select the address OD.
e. Insert a Hi-8 Tape to the camcorder.
f. Press the “START/STOP” button on the Rear board so as to set the camcorder to RECORDING mode.
g. Record for enough time to check the waveform when you playback where you recorded in step f).
* 1 minute may be enough to check the waveform in playback mode.
i. Make sure that the waveform is to be as below. If OK, go to step l).
j. In case of the waveform level is bigger than 1Vp-p, press the Data Down button so as to set to down the waveform level and if the waveform level smaller than 1Vp-p, press the Data Up button so as to set to up the waveform level.

k. Repeat step g), h), i).

CN452

14	13
12	11
10	9
8	7
6	5
4	3
2	1

14	VIDEO GND
13	VIDEO OUT
12	NC
11	PB RF
10	AUDIO OUT
9	HD SW
8	VCR UNREG
7	JIG CS
6	VCR UNREG
5	JIG SCK
4	SS GND
3	JIG SO
2	JIG DETECT
1	JIG SI



l. Be sure to press the “MENU(CONFIRM)” button on FUNCTION to memorize setting.
m. Reset the power source so as to fix the new data to the camcorder’s EEPROM.

2-13. BAND Pass Filter

: This adjustment is performed to set the bandwidth of the 1.5MHz BPF.
By this adjustment, we can playback the audio without distortion.

a. Preparations

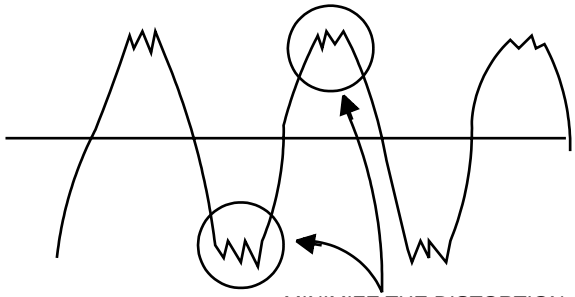
TAPE	STANDARD COLOR BAR TAPE(MONAURAL)
EQUIPMENT	OSCILLOSCOPE
OTHER	NONE
TEST POINT	CN452 PIN 10
ADDRESS	0E
NAME	BPF ADJ

b. Connect a power source.
c. Get into the VCR adjustment mode.
d. Press the “FADE(MODE UP)” or ”BLC(MODE DOWN)” button of FUNCTION so as to select the address 0E.
e. Insert the Standard Color Bar Tape(monaural) and press the “PLAY” button.
f. Connect the oscilloscope to the addressed Test Point.
g. Press the “Z.RETURN(DATA DOWN)/TITLE(DATA UP)” button so as to set the waveform to be as below.

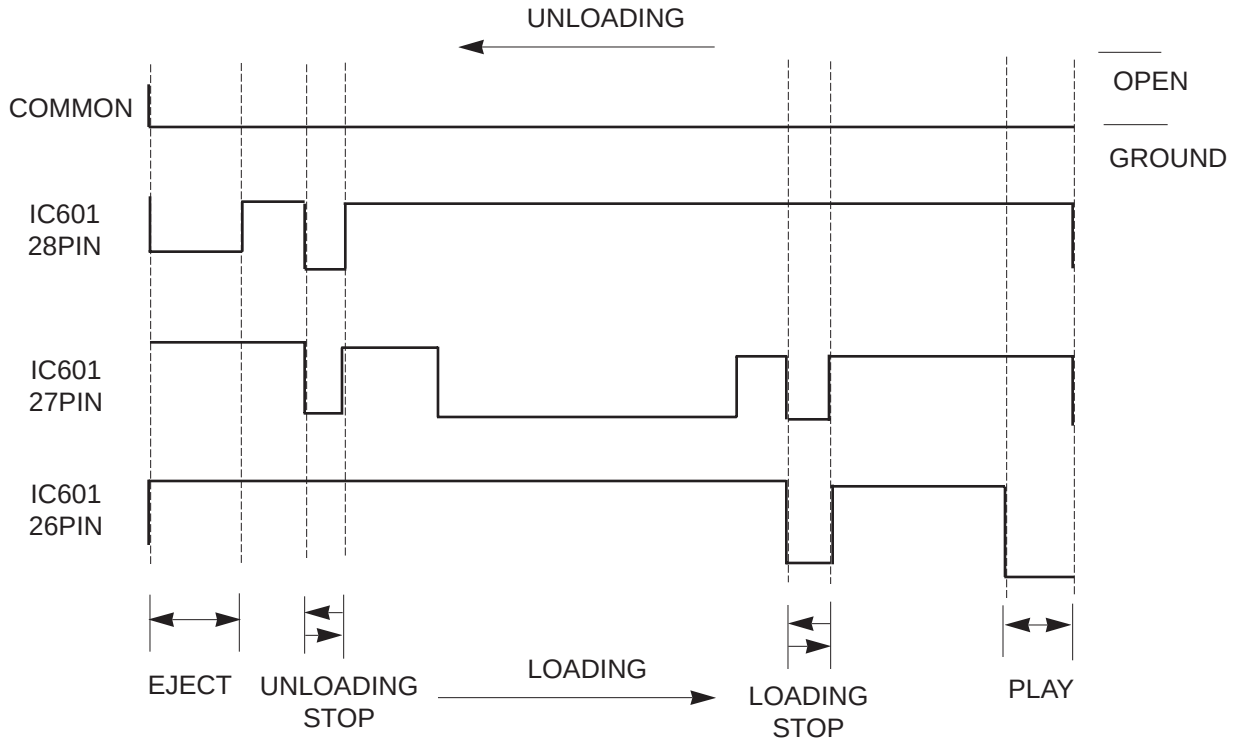
CN452

14	13
12	11
10	9
8	7
6	5
4	3
2	1

14	VIDEO GND
13	VIDEO OUT
12	NC
11	PB RF
10	AUDIO OUT
9	HD SW
8	VCR UNREG
7	JIG CS
6	VCR UNREG
5	JIG SCK
4	SS GND
3	JIG SO
2	JIG DETECT
1	JIG SI

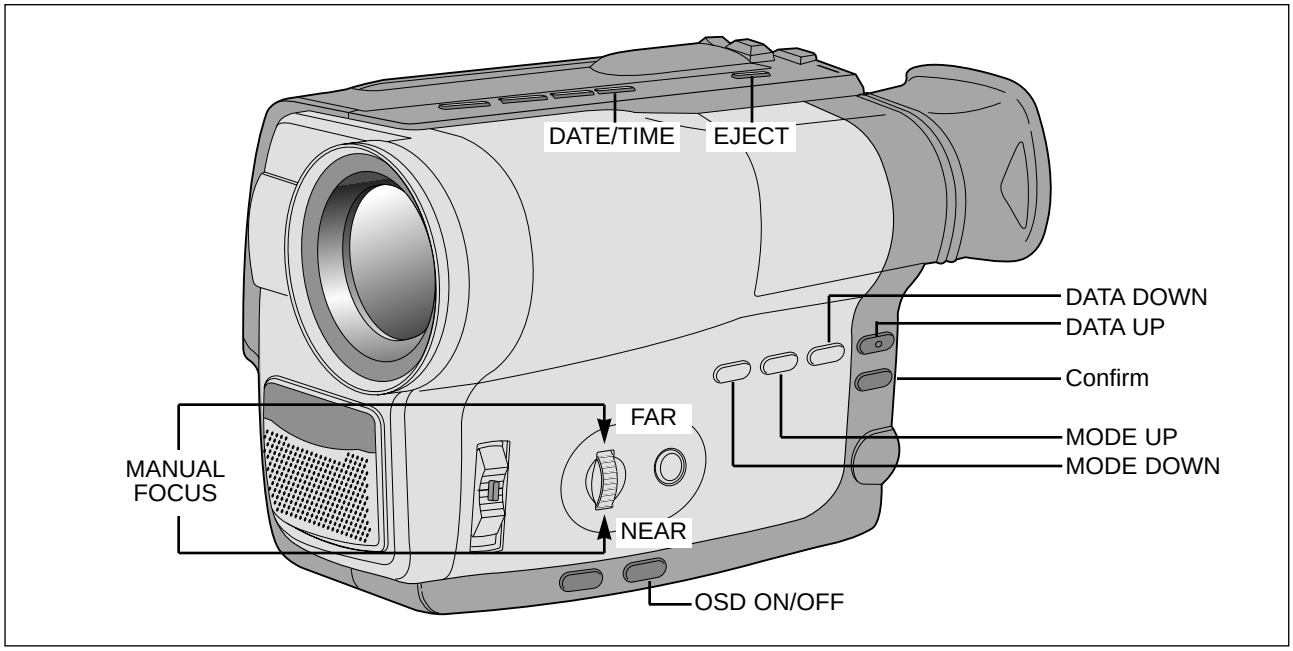


h. Be sure to press the “MENU(CONFIRM)” button on FUNCTION to memorize setting.
i. Reset the power source so as to fix the new data to the EEPROM.



POSITION	IC601 28PIN	IC601 27PIN	IC601 26PIN	ACTION MODE
EJECT	L	H	H	EJECT
UNLOADING STOP	L	L	H	UNLOADING STOP
LOADING STOP	H	L	L	LOADING STOP
PB	H	H	L	PLAY, FF, REW, STILL....

The remote controller (accessory unit) is required to adjust the camera section.



Note : In service adjustment mode, button names are different from those in customer camera function control mode. EX) MENU ON / OFF button is the same as confirm.

5. How to get into service "**ADJUST**" mode

STEP 1

1. Remove the lithium battery from the camcorder.
2. Connect the power source (battery/ DC cable).
3. Eject the tape if it is in the unit.
4. Set the power switch of the camcorder to "CAMERA" position.
5. Set OSD on state.

STEP 2

1. Press and hold the "EJECT" button and "DATE/TIME" button on the camcorder at the same time for more than 5 seconds. Then unit goes into service mode.

STEP 3

On screen display show "0DF. T.INI XX XX" CAMERA ADJUSTMENT mode has successfully been activated.

Note : When "XX XX" is shown in service adjustment procedures, this indicates variable values.

	NO-OSD-DISPLAY				DISTANCE							
ADDR	MODEL/DATA				CONTENT							
	NTSC		PAL									
	NOR	HI8	NOR	HI8	OPTION	D6	D5	D4	D3	D2	D1	D0
020	60	60	60	60	@WDR REGISTER[151,144] *BOUND0[7:0]							
021	3F	3F	3F	3F	@WDR REGISTER[159,152] *LTIC[3:0],CH_SEL[3:0]							
022	C7	C7	C7	C7	@WDR REGISTER[167,160] *LTI_ON[7],LSI_ON[6],LUT_TAB[5:3],LUT_HPF_SFT[2:0]							
023	1A	1A	1A	1A	@WDR REGISTER[175,168] *LUT_GAIN[7:0]							
024	04	04	04	04	@WDR REGISTER[183,176] *BACK_WT[7:4],HIST_WT[3:0]							
025	30	30	30	30	@WDR REGISTER[191,184] *EDGE_AMP[7:4],BACK_SP[3:0]							
026	D0	D0	D0	D0	@WDR REGISTER[199,192] *LP_V[7:0] ACTIVE AREA VERTICAL LENGTH							
027	24	24	24	24	@WDR REGISTER[207,200] *SP_V[7:0] ACTIVE AREA VERTICAL START							
028	B0	B0	B0	B0	@WDR REGISTER[215,208] *LP_H[7:0] ACTIVE AREA HORIZENTAL LENGTH							
029	30	30	30	30	@WDR REGISTER[223,216] *SP_H[7:0] ACTIVE AREA HORIZENTAL START							
02A	00	00	00	00	@WDR REGISTER[231,224] *POFFSET[7:0]							
02B	00	00	00	00	@WDR REGISTER[239,232] *CMP_ADJ[7:4],SP_ADJ[3:0]							
02C	57	57	57	57	@WDR REGISTER[247,240] *CLPEN[7],SORSL[6],V1_EXIST[5],GR_MODE[4:3],GRB_MODE[2:0]							
02D	01	01	01	01	@WDR REGISTER[255,248] *OUT_MODE[7:5],DLY_MODE[4:0]							
02E	50	50	50	50	@WDR ON BLACK BALANCE MAX-DATA (MIN DATA+31)							
02F	04	04	08	08	@WDR ON Y,C GAMMA 1							
030	07	07	0D	0D	@WDR ON Y,C GAMMA 2							
031	15	15	1B	1B	@WDR ON Y,C GAMMA 3							
032	2C	2C	32	32	@WDR ON Y,C GAMMA 4							
033	4D	4D	57	57	@WDR ON Y,C GAMMA 5							
034	70	70	82	82	@WDR ON Y,C GAMMA 6							
035	B4	B4	C0	C0	@WDR ON Y,C GAMMA 7							
036	F8	F8	F0	F0	@WDR ON Y,C GAMMA 8							
037	99	99	99	99	@WDR ON ADDR#12C ;YVBKT,YVBK,HBLK,YHBK							
038	08	08	08	08	@WDR ON ADDR#123;YHPSC,YAPC							
039	E0	E0	E0	E0	@WDR ON ADDR#126;YLPFSEL							
03A	10	10	10	10	@WDR ON ADDR#134;RED DARK SLICE							
03B	F8	F8	F8	F8	@WDR ON ADDR#135;BLUE DARK SLICE							
03C	00	00	00	00	@WDR ON ADDR#136;GREEN DARK SLICE							
03D	D0	D0	D0	D0	@WDR ON, AE A-READ(SMALL)DATA CUTTING -HIGH							
03E	01	01	01	01	@WDR ON, AE A-READ(SMALL)DATA CUTTING -LOW							
03F	80	80	80	80	@WDR ON, AE DATA CUTTING -LOW							
040	02	02	02	02	@WDR ON, AE DATA CUTTING -HIGH							
041	D0	D0	D0	E0	@AE TARGET-LOW BYTE							
042	00	00	00	00	@AE TARGET-HIGH BYTE							
043	48	48	48	48	@AETAR L (FLEX-ZONE)							
044	00	00	00	00	@AETAR H (FLEX-ZONE)							
045	00	00	00	00	@BLC/WDR , AE TARTGET 'L'							
046	02	02	02	02	@BLC /WDR, AE TARTGET 'H'							
047	00	00	00	00	@SAND&SNOW MODE AE TARGET 'L'							
048	02	02	02	02	@SAND&SNOW MODE AE TARGET 'H'							

	NO-OSD-DISPLAY				DISTANCE							
ADDR	MODEL/DATA				CONTENT							
	NTSC		PAL									
	NOR	HI8	NOR	HI8	OPTION	D6	D5	D4	D3	D2	D1	D0
072	80	8A	80	8A	OUTDOOR DECISION BY HALL VALUE							
073	70	60	70	60	AWB;AWB TRACKING HALL2(WB TRACKING AVAILABLE BETWEEN #072~#072-#073)							
074	04	07	06	04	W/B TRACKING AREA SELECT							
075	0C	0C	0C	0C	WB STABLE MODE THRESHOLD							
076	10	10	10	10	|---- AWB CUTTING THRESHOLD1					Y LEVEL INTERVAL		----|
077	10	10	10	10	|---- AWB CUTTING THRESHOLD2					TOP LEVEL INTERVAL		----|
078	40	40	40	40	|---- AWB CUTTING THRESHOLD3					R CONTROL LOW MARGIN		----|
079	40	40	40	40	|---- AWB CUTTING THRESHOLD4					DATA CUT LOW		----|
07A	00	00	00	00	|---- AWB CUTTING THRESHOLD1					DATA CUT HIGH		----|
07B	60	6A	60	6A	* AWB HALL STOP AT SPOLTLIGHT MODE							
07C	80	8A	80	8A	* AWB HALL AT EIS MODE							
07D	F0	F0	F0	F0	* AWB HALL STOP AT SPORTS/PORTRAIT/SAND&SNOW/HSS MODE							
07E	F3	F3	F3	F3	@D/ZOOM RATIO MAX DATA(80:2 TIMES, CO:4 TIMES, F4:20 TIMES)							
07F	17	17	1B	1B	ZOOM MAX SPEED ;22X LENS PAL:1BH ,NTSC:17H)							
080	07	07	09	09	REMCON ZOOM SPEED X22 PAL:09 NTSC:07)							
081	0A	00	09	F8	@CCD H-PIXEL NUMBER -LOW BYTE							
082	02	03	02	02	@CCD H-PIXEL NUMBER -HIGH BYTE							
083	F7	F7	23	23	@CCD V LINE NUMBER -LOW BYTE 1/2							
084	00	00	01	01	@CCD V LINE NUMBER -HIGH BYTE 1/2							
085	09	09	0C	0C	@V SKIP LINE NUMBER							
086	00	11	00	00	DIS;VMX,VMY MAX-#086 (11:NTSC HI-8, 00:ETC)							
087	00	00	00	00	@CCD V LINE NUMBER HIGH BYTE							
088	1D	1D	1D	1D	@DSP IC ADDR #39H ;MOSAIC SIZE					:VTR		
089	98	98	98	98	@DSP IC ADDR #41H ;ART DSE LEVEL					:VTR		
08A	B8	B8	B8	B8	@DSP IC ADDR #1CH ;NEGA MODE WHITE CLIP LEVEL					:VTR		
08B	75	75	75	75	@SEPIA CDS-R							
08C	3A	3A	3A	3A	@SEPIA CDS-G							
08D	10	10	11	11	@CINEMA F-ZONE LIMIT UP							
08E	68	68	7D	7D	@CINEMA F-ZONE LIMIT UP							
08F	01	01	01	01	@DSP IC ADDR #00H ;EMODE,CINEMA					:VTR		
090	88	88	88	88	@DSP IC ADDR #07H ;ADCLDEL. DSCKDEL,FWCKDLY					:VTR		
091	2E	2E	1B	1B	@DSP IC ADDR #08H ;HCNTSET					:VTR		
092	00	00	00	00	@DSP IC ADDR #0AH ;DCKSEL,VCNTSET					:VTR		
093	4A	4C	4B	4A	@DSP IC ADDR #10H ;C-SYNC					:VTR		
094	CE	C8	DB	D8	@DSP IC ADDR #14H ;EUSC(B-Y) BURST					:VTR		
095	00	00	24	28	@DSP IC ADDR #15H ;EVSC(R-Y)BURST					:VTR		
096	77	77	77	77	@DSP IC ADDR #20H ;YVBTH,YVBKG,YHBKTH,YHBKG					:VTR		
097	B8	B8	B8	B8	@DSP IC ADDR #28H ;VCR_ADJ,WHITE LEVEL					:VTR		
098	7F	7F	7F	7F	@DSP IC ADDR #47H ;CRYGP					:VTR		
099	7F	7F	7F	7F	@DSP IC ADDR #48H ;CRYGN					:VTR		
09A	7F	7F	7F	7F	@DSP IC ADDR #4BH ;CRYGP					:VTR		

	NO-OSD-DISPLAY				DISTANCE							
ADDR	MODEL/DATA				CONTENT							
	NTSC		PAL									
	NOR	HI8	NOR	HI8	OPTION	D6	D5	D4	D3	D2	D1	D0
0C4	83	83	83	83	@FOCUS HIGH							
0C5	FD	FD	FD	FD	@ZOOM LOW							
0C6	87	87	87	87	@ZOOM HIGH							
0C7	00	00	00	00	changed by AUTO IRIS ADJ(0CE)			@ IRIS CONTROL MAX LOW BYTE				
0C8	05	05	05	05	changed by AUTO IRIS ADJ(0CE)			@ IRIS CONTROL MAX HIGH BYTE				
0C9	32	3B	3F	31	changed by AUTO WB ADJ(0CF)			R-COLTROL 3100K :INDOOR				
0CA	9B	87	93	A0	changed by AUTO WB ADJ(0CF)			B-COLTROL 3100K :INDOOR				
0CB	60	6B	71	5F	changed by AUTO WB ADJ(0CF)			R-COLTROL 5100K : OUTDOOR				
0CC	5A	58	55	5A	changed by AUTO WB ADJ(0CF)			B-COLTROL 5100K : OUTDOOR				
0CD	FF	FF	FF	FF	@@HALL AUTO ADJUST							
0CE	FF	FF	FF	FF	@@IRIS AUTO							
0CF	FF	FF	FF	FF	@@W/B AUTO							
0D0	FF	FF	FF	FF	@@LENS AUTO							
0D1	FF	FF	FF	FF								
0D2	FF	FF	FF	FF	@@ AGC CHECK PAL:68H,NTSC:80H							
0D3	FF	FF	FF	FF	@@LENS CHECK							
0D4	FF	FF	FF	FF	@ WIDE END ZOOM POSITION & ONE AF MODE							
0D5	FF	FF	FF	FF	@@GYRO SENSOR CHK2							
0D6	FF	FF	FF	FF	@@ZOOM VR CENTER ADJT							
0D7	01	01	01	01	@@ZOOM/FOCUS CHK=ONE AF ENABLE BIT 00~03							
0D8	FF	FF	FF	FF								
0D9	FF	FF	FF	FF	@@COLOR ADJUST							
0DA	FF	FF	FF	FF	@@SETUP AUTO							
0DB	FF	FF	FF	FF	@AGC AUTO							
0DC	FF	FF	FF	FF	@LENS ZOOMTRACK CHECK							
0DD	FF	FF	FF	FF								
0DE	FF	FF	FF	FF	@LENS 3M ZOOMTRACK ADJ. = SERVICE MODE							
0DF	A0	A0	A0	A0	@EEPROM -TABLE -INITIAL ('99'+CONFIRM =EXCEPT(#0E0~0FF), 'AA'=ALL DATA INITIAL)							
0E0	3B	7F	33	77	V.LIGHT	XDR	DIS	PIP	CVF/EVF	HI8	PBDSE	S/SHOT
@MODEL DATA : FIXED BY MODEL												
0E1	C4	C4	C4	C4	--------VCR DATA[1] @SPECIAL MODEL-DATA							
0E2	85	85	85	85	--------VCR DATA[2] @HD SW PULSE							
0E3	8B	8B	8B	8B	--------VCR DATA[3] COLOR BAR PATTERN GENERATION Y LEVEL							
0E4	BB	BC	B6	BC	--------VCR DATA[4] @Y-EMPHASIS(NOR)							
0E5	94	70	9B	70	--------VCR DATA[5] @PB Y LEVEL(NOR)							
0E6	BF	CE	BF	CE	--------VCR DATA[6] @Y-EMPHASIS(HI8)							
0E7	60	60	60	60	--------VCR DATA[7] @PB Y LEVEL(HI8)							
0E8	80	80	80	80	--------VCR DATA[8] *.@DSP IC ADDR #29H ;YGAIN VCR-PLAY MODE							
0E9	7F	7F	87	7F	--------VCR DATA[9] @Y FM CARRIER(NOR)							
0EA	83	83	81	81	--------VCR DATA[10] @Y FM DEVIATION(NOR)							
0EB	73	73	73	73	--------VCR DATA[11] @Y FM CARRIER(HI8)							

	NO-OSD-DISPLAY				DISTANCE							
ADDR	MODEL/DATA				CONTENT							
	NTSC		PAL									
	NOR	HI8	NOR	HI8	OPTION	D6	D5	D4	D3	D2	D1	D0
113	00	20	00	20	ROM TEST"EYDLY[2:0]000=-4PCK,111=+3PCK"				UV_CTRL	|----	EBURST_H[2:0]	----|
114	CC	C8	D8	D8	|---- EUSC[7:0] -128~+127 of B-Y(U) BURST VALUE							----|
115	00	00	28	28	|---- EVSC[7:0] -128~+127 of R-Y(V) BURST VALUE							----|
116	02	02	02	02	X	EZBRT[1:0];BIGHT OF WINDOW		EZONE	X	A/D-DIRECT	EXTDAC	PD1
117	03	03	03	03	X	X	AD[1:0] AD CLK DLY		D-CLP	S2:GISS COMP.	S1	S0
118	08	00	0D	00	|----- CLAMP_OFFSET[7:0]							----|
119	30	30	30	30	|----- DEFECT_THRESHOLD[7:0] 0~255							----|
11A	00	00	00	00	X	X	X	X	RAM-OUT	|----	RAM-OUT[8:6]	
11B	00	00	00	00	|---- RAM-OUT[5:0]					----|	RAM-OUT[9:8]	
11C	00	00	00	00	|---- RAM-OUT[7:0]							----|
11D	00	00	00	00	X	|---- PFINDCNT[6:0]						----|
11E	0A	0A	0A	0E	DUMMY	W/B;INTERVAL OF AREA(SECTOR) FROM CENTER CENTER						
11F	F0	F0	F0	F0	*DIS;WIGHT WHEN DATA INCREASE							
					CLUSTER 2 (HEADER[3:0] = 4'b0010) LUMINANCE							
120	66	76	66	66	YVBKTH[1:0]		YVBKG[1:0]		YHBKTH[1:0]		YHBKG[1:0]	
121	10	D9	10	D9	Y_H_GAIN[1:0]		X	|---- Y_H_POSI_GAIN[4:0]				----|
122	58	94	58	D8	Y_L_GAIN[1:0]		YOLD-GAMMA	|---- Y_V_POSI_GAIN[4:0]				----|
123	02	02	03	03	X	X	|---- YA_NOISE_SLICE[5:0]					----|
124	B0	A0	B0	C0	|---- YHL_SC[7:0]							----|
125	FF	37	FF	FF	|---- YEDGE_SC[7:0]							----|
126	E0	E0	E0	E0	YVAPPSEL	YEGCS	YHLCS'1'=ON	YLPFSEL[1:0];00,01,10		|----	YSCDLY[2;0]	----|
127	30	0A	30	0A	|---- YHINS[6:0] aperture noise slice level after GAMMA.						----|	YNEGA/POSI
128	D0	DE	D8	E0	|---- YWC[7:0]			*EEPROM EMPTY ?				----|
129	8A	8E	8E	93	|---- YGAIN[7:0] X0~X2							----|
12A	00	00	00	00	X	YENHANTH[2:0]			X	X	YENHANG[1:0]	
12B	00	00	06	00	|---- YART[2:0] ----|		|---- YHI-A-GAIN[4:0]					----|
12C	57	AF	61	AF	|---- HAPGN[4:0]				----|	YHCLIP[3:2]		H_C_SUP[4]
12D	A1	81	B1	C8	|---- VAPGN[4:0]				----|	YHCLIP[1:0]		E_C_SUP[4]
12E	80	88	80	80	H_C_SUPP_GAIN[3:0]high light color suppress slope				F_FALL[3:0] edge color suppress			
12F	58	50	58	50	|---- Y_APERTUTR_CLIP[7:0]							----|
					CLUSTER 3 (HEADER[3:0] = 4'b0011) LUMINANCE & CHROMA							
130	20	20	20	20	YHPEG[1:0]		YVPEG[1:0]		YHEMBSEL[1:0]		YVEMBSEL[1:0]	
131	30	30	30	30	|---- YPST[7:0] pastel level							----|
132	30	30	30	30	|---- YEMB[7:0] embossing level							----|
133	00	00	00	00	X	GYDLY[2:0];LINE-INPUT MODE			YEMBOSS	YPASTEL	YIN-OUT	YWINDOW
134	0A	05	04	09	|---- CRDS[7:0] r-dark-slice							----|
135	FA	FE	07	00	|---- CBDS[7:0] b-dark-slice							
136	FE	00	00	00	|---- CGDS[7:0] g-dark-slice							
137	36	3A	34	31	|---- CRWB[7:0] R-white-balance-control							
138	8F	8F	8C	90	|---- CBWB[7:0] B-white-balance-control							
139	24	24	24	24	|---- CGWB[7:0] G-white-balance-control							

	NO-OSD-DISPLAY				DISTANCE							
ADDR	MODEL/DATA				CONTENT							
	NTSC		PAL									
	NOR	HI8	NOR	HI8	OPTION	D6	D5	D4	D3	D2	D1	D0
160	AE	AE	AE	AE	D.ZOOM	ZOOM-BYPASS	D.EFFECT	VADJ[1:0]		HADJ[1:0]		Z_DELAY
161	00	00	00	00	|---- VZOOM[7:0]							----|
162	09	09	0C		|---- VZSKIP[7:0]							----|
163	00	00	00	00	|---- VZOFFE[7:0] EVEN FIELD LINE OFFSET							----|
164	00	00	00	00	|---- VZOFFO[7:0] ODD FIELD LINE OFFSET							----|
165	00	00	00	00	|---- HZOOM[7:0]							----|
166	80	80	80	80	MOSAIC H-ADJ[1:0]		X	X	X	X	X	HZSTR[8]
167	00	00	00	00	|---- HZSTR[7:0]							----|
168	00	00	00	00	|---- HZOFS[7:0]							----|
169	00	00	00	00	|---- MOSAIC[5:0] 4d=8x8,5d=10x10,63d=126x126						----|	MOSAIC V-ADJ[1:0]
16A	02	03	02	02	FEMODE[1:0] 01=F,10=H.M		X	X	X	X	FCM[9:8]	
16B	0A	00	09	F8	|---- FCM[7:0]							----|
16C	01	01	01	01	|---- V-MOSAIC[5:0] VERTICAL MOSAIC SIZE						HMIRROR[9:8]	
16D	05	84	07	7C	|---- HMIRROR[7:0]							----|
16E	00	00	00	00	|---- CBLK-ADJ[3:0]			----|	CCIR-Y	CCIR-C	X	SCKIV
16F	01	01	01	01	DUMMY #16C:MIRROR WHEN EIS ON/OFF '0'=OFF,'1'=ON							
					CLUSTER 7 (HEADER[3:0] = 4'b0111) AF/AE							
170	05	05	06	06	|---- OAFHS-W1 @AF WINDOW 1 H-START POINT;3~252							----|
171	F3	F3	EC	EC	|---- OAFHE-W1 @AF WINDOW 1 H-END POINT;5~254							----|
172	03	03	04	04	|---- OAFVS-W1 @AF WINDOW 1 V-START POINT;3~152							----|
173	76	76	8D	8D	|---- OAFVE-W1 @AF WINDOW 1 V-END POINT;5~154							----|
174	52	52	4D	4D	|---- OAFHS-W2 @AF WINDOW 2 H-START POINT;1~254							----|
175	AC	AC	A8	A8	|---- OAFHE-W2 @AF WINDOW 2 H-END POINT;3~256							----|
176	25	25	29	29	|---- OAFVS-W2 @AF WINDOW 2 V-START POINT;1~154							----|
177	5F	5F	71	71	|---- OAFVE-W2 @AF WINDOW 2 V-END POINT;3~156							----|
178	43	43	37	37	|---- OAEHS-WA @ AE WINDOW A H-START POINT;1~254							----|
179	C1	C1	B8	B8	|---- OAEHE-WA @ AE WINDOW A H-END POINT;3~256							----|
17A	20	20	26	26	|---- OAEVS-WA @ AE WINDOW A V-START POINT;1~155							----|
17B	6E	6E	81	81	|---- OAEVE-WA @ AE WINDOW A V-END POINT;3~156							----|
17C	0A	0A	07	07	|---- OAEHS-WB @ AE WINDOW B H-START POINT;1~254							----|
17D	EE	EE	ED	ED	|---- OAEHE-WB @ AE WINDOW B H-END POINT;3~256							----|
17E	1E	1E	24	24	|---- OAEVS-WB @ AE WINDOW B V-START POINT;1~155							----|
17F	73	73	8B	8B	|---- OAEVE-WB @ AE WINDOW B V-END POINT;3~156							----|
					CLUSTER 8 (HEADER[3:0] = 4'b1000) AWB							
180	0A	0A	0A	07	|---- OAWBHS @ AWB WINDOW H-START POINT;1~254							----|
181	EE	EE	ED	ED	|---- OAWBHE @ AWB WINDOW H-END POINT;3~256							----|
182	1E	1E	24	24	|---- OAWBVS @ AWB WINDOW V-START POINT;1~155							----|
183	73	73	8B	8B	|---- OAWBVE @ AWB WINDOW V-END POINT;1~156							----|
184	FF	FF	FF	FF	|---- OYH-AE @Y-HIGH-THRESHOLD FOR AE;0~255							----|
185	00	00	00	00	|---- OYL-AE @Y-LOW -THRESHOLD FOR AE							----|
186	90	90	90	90	|---- OYH-AWB @Y-HIGH-THRESHOLD FOR AWB							----|

	NO-OSD-DISPLAY				DISTANCE							
ADDR	MODEL/DATA				CONTENT							
	NTSC		PAL									
	NOR	HI8	NOR	HI8	OPTION	D6	D5	D4	D3	D2	D1	D0
1AE	1A	1A	1A	1A	* D/ZOOM RATIO OF WIDE IMAGE COMPENSATION							
1AF	12	04	04	04	ADDR. #228 FIELD-'H',EDGE CHROMA SUPP.ON(ADDR.#201 D4='1') ,ADDR.#223 DATA =10 B/B							
					CLUSTER 11 (HEADER[3:0] = 4'b1011) ,AF DATA2							
1B0	04	10	10	10	ADDR.#229 FIELD-'H',EDGE CHROMA SUPP.ON(ADDR.#201 D4='1')							----|
1B1	12	00	00	00	ADDR.#228 FIELD-'L',EDGE CHROMA SUPP.ON(ADDR.#201 D4='1')							----|
1B2	04	14	14	14	ADDR.#229 FIELD-'L',EDGE CHROMA SUPP.ON(ADDR.#201 D4='1')							----|
1B3	80	80	20	80	ADDR.#21B DATA OF FIELD-'H' WHEN PHOTO ON							----|
1B4	80	80	2F	8F	ADDR.#21B DATA OF FIELD-'L' WHEN PHOTO ON							----|
1B5	0A	0A	0B	0B	#VTR PB DSE;MOASIC,MIRROR OF COLOR , RELATED ADDR.:#09E -->#113;D3 bit							----|
1B6	80	80	2F	8F	ADDR. #21B DATA WHNE GHOST ON							----|
1B7	30	30	00	20	D/ZOOM SUB-PIXEL CONTROL(ADDR.#163) FIELD-'H' BY DSP;							----|
1B8	1B	1B	1B	1B	DIS ON XMX,XMY SETTING BY ZOOM POSITION,ADDR.#1B9,#1AE ,at WIDE END #1B8-#1AA=01hex							----|
1B9	29	29	29	29	DIS ON, TELE POSISION D/ZOOM RATIO (29 HEX= X 1.19)							----|
1BA	01	01	01	01	* CCD DEFECT AE WINDOW B HORIZENTAL START VALUE (DSP#17C , DIS#261)							----|
1BB	F4	F6	F2	F2	* CCD DEFECT AE WINDOW B HORIZENTAL END VALUE (DSP#17D , DIS#260)							----|
1BC	02	02	02	02	* CCD DEFECT AE WINDOW B VERTICAL START VALUE (DSP#17E , DIS#25F)							
1BD	77	77	8E	8E	* CCD DEFECT AE WINDOW B VERTICAL END VALUE (DSP#17F , DIS#25E)							
1BE	B1	B1	C1	B1	D.ZOOM ON, DSP #12D CONTROL DATA							
1BF	10	10	10	10	D0 BIT='0' AF1,2 DATA FOR DIS BLOCKING PGM ON,D8 BIT RPS/FPS CVF PLL LOCKING SPPED 1=OLD							
					CLUSTER 12 (HEADER[3:0] = 4'b1100); AWB/AE							
1C0	FC	FC	FB	FA	* FLEXZONE AF1 HORIZENTAL START VALUE (DSP#170 - DIS#261)							
1C1	00	00	00	00	WIDE D.ZOOM X1.1 DECREASE ZOOM POSITION-'L' POINT (00 83)OR(08 80)							----|
1C2	83	83	83	83	WIDE D.ZOOM X1.1 DECREASE ZOOM POSITION-'H' POINT (00 83)OR(08 80)							----|
1C3	50	50	50	50	WIDE D.ZOOM OFF ZOOM POSITION-'L' POINT (50 81)OR(08 80)							----|
1C4	7C	7C	7C	7C	WIDE D.ZOOM OFF ZOOM POSITION-'H' POINT (50 81)OR(08 80).7C=X1.06(0E hex)							----|
1C5	0C	0C	0C	0C	DIS;CONTROL OF AF DATA							----|
1C6	02	02	02	02	DIS;STEP OF AF DATA							----|
1C7	00	00	00	10	W/B ADJ, CENTER COMPENSATION VALUE, INDOOR R,B (EX, E4 ; R -2,B +4)							----|
1C8	F3	00	E4	21	W/B ADJ, CENTER COMPENSATION VALUE, OUT DOOR R,B (EX, E4 ; R -2,B +4)							----|
1C9	69	69	B6	B6	DIS ON, SHUTTER CONTROL VALUE							----|
1CA	30	30	00	1C	D/ZOOM SUB-PIXEL CONTROL(ADDR.#164) FIELD-'H' BY DSP;							----|
1CB	30	30	00	18	D/ZOOM SUB-PIXEL CONTROL(ADDR.#163) FIELD-'L' BY DSP;							----|
1CC	30	30	00	14	D/ZOOM SUB-PIXEL CONTROL(ADDR.#164) FIELD-'L' BY DSP;							----|
1CD	02	02	02	02	@VTR ;VCNT DATA DSP ADDR.#10A FOR FPS							----|
1CE	50	50	50	50	DIS;LIMIT							
1CF	18	18	18	18	DIS; FACTOR OF FREQUENCY							
					CLUSTER 13 (HEADER[3:0] = 4'b1101); DECODER 1							
1D0	00	00	00	00	|----DVAS[7:0]; HORIZENTAL ACTIVE VIDEO START POINT							----|
1D1	00	26	00	00	|----DVAE[7:0]; HORIZENTAL ACTIVE VIDEO END POINT CONTROL							----|
1D2	00	00	00	00	|----VAVS[7:0]; VERTICAL ACTIVE VIDEO START POINT							----|
1D3	00	00	00	00	|----VAVE[7:0]; VERTICAL ACTIVE VIDEO END POINT CONTROL							----|

	NO-OSD-DISPLAY				DISTANCE							
ADDR	MODEL/DATA				CONTENT							
	NTSC		PAL									
	NOR	HI8	NOR	HI8	OPTION	D6	D5	D4	D3	D2	D1	D0
1FA	80	70	80	70	|---- BETA[7:0] VERTICAL LOW PASS FILTER BETA=256-2*ALPHA ----|							
1FB	05	05	16	16	|---- STP_TH[7:0] STEEP THRESHOLD:0~255 VERTICAL LPF, AD ACTIVE OPERATION THRESHOLD ----|							
1FC	07	0D	07	0B	|---- COFFSET[7:0] Y,C DELAY ----|							
IFD	00	FC	FC	FC	|---- DOP_DLY[7:0] DOP DELAY ----|							
1FE	00	00	00	00	X	X	MEM_TH [5:0] MEMORY THRESHOLD CONTROL ----|					
1FF	xx				CAMERA MICOM VERSION DISPLAY XX XX (Month-date)							
	NOR	HI8	NOR	HI8	D7	D6	D5	D4	D3	D2	D1	D0
200	40	40	40	40	DIS_ON	ZOOM_ON	LSSC_ON	MIRR_ON	PIP_ON	POWER	PIP_MIRR	BYPASS
201	8C	8C	8C	8C	FRAME	STILL1	STILL2	CEDGE_ON	APT_ON	OSD_ON	TRA_ON	GAMA_ON
202	00	20	40	60	DVC	PAL	HIGH	FLD_SEL	BIST	PN_SEL	CUR_HOLD	CLEAR
203	F0	F0	F0	F0	|---- KX (7:0) HORIZONTAL ZOOM COEFFICENT VALUE ----|							
204	F0	F0	F0	F0	|---- KY (7:0) VERTICAL ZOOM COEFFICENT VALUE ----|							
205	5E	8E	5D	98	|---- SP_H (7:0) HORIZONTAL START POINT FOR ZOOM ----|							
206	14	13	19	19	|---- SP_V (7:0) VERTICAL START POINT FOR ZOOM ----|							
207	00	00	00	00	|---- WIDTH (7:0) HORIZONTAL WIDTH LSB ----|							
208	02	03	02	03	X	X	X	X	X	X	WIDTH (9:8) WIDTH MSB	
209	F5	F5	22	22	|---- HEIGHT [7:0] VERTICAL HEIGHT LSB ----|							
20A	00	00	01	01	X	X	X	X	X	X	X	HEIGHT(8)
20B	98	8D	98	8E	|---- PIP_HSP (7:0) PIP IMAGE HORIZONTAL START POINT LSB ----|							
20C	01	02	01	02	X	X	X	X	X	X	PIP_HSP(9:8)	
20D	88	87	AD	AD	|---- PIP_VSP (7:0) PIP IMAGE VERTICAL START POINT LSB ----|							
20E	00	00	00	00	X	X	X	X	X	X	X	PIP_VSP(8)
20F	A4	A4	A3	A3	|---- PBOX_HSP (7:0) PIP BOX HORIZONTAL START POINT LSB ----|							
210	01	01	02	02	X	X	X	X	X	X	PBOX_HSP(9:8)	
211	B8	B8	B9	B8	|---- PBOX_VSP (7:0) PIP BOX VERTICAL START POINT LSB ----|							
212	00	00	00	00	X	X	X	X	X	X	X	PBOX_VSP(8)
213	07	07	07	07	|---- PIP_DSP_HADJ (7:0) PIP IMAGE WIDTH ADJUST ----|							
214	03	03	03	03	|---- PIP_DSP_VADJ (7:0) PIP IMAGE HEIGHT ADJUST ----|							
215	00	03	00	00	|---- PBOX_DSP_HADJ (7:0) PIP BOX WIDTH ADJUST ----|							
216	00	00	00	00	|---- PBOX_DSP_VADJ (7:0) PIP BOX HEIGHT ADJUST ----|							
217	3F	6E	3C	78	|---- OUT_OFF (7:0) FIELD MEMORY1 HORIZONTAL OUTPUT S/P ----|							
218	3E	6E	3C	78	|---- OUT_OFF1 (7:0) FIELD MEMORY1 HORIZONTAL OUTPUT S/P ----|							
219	08	08	08	08	GR_MODE (7:4) INTERNAL IMAGE SELECT MODE				|---- OSD_VAL (3:0) ----|			
21A	0E	0E	0E	0E	CLK2_SEL	|----CLK2_SEL (6:0) CLK DELAY ADJUST ----|						
21B	80	80	1F	8C	S1S2_SEL0	CRCB_SEL0	S1S2_SEL1	CRCB_SEL1	LINE_SEL0	LINE_SEL1	LINE_SEL2	LINE_SEL3
21C	04	0C	05	0B	OSD_SEL (7:5)			|---- HVD_ADJ ----|				
21D	04	84	04	04	PIP_S1S2_SEL	|----LS_CNT(6:0) LOW SHUTTER SPEED CONTROL REGISTER ----|						
21E	4C	76	52	84	|---- DCLP_R (7:0) RISING EDGE TIME CONTROL FOR ODM ----|							
21F	54	7E	5A	8C	|---- DCLP_F (7:0) FALLING EDGE TIME CONTROL FOR ODM ----|							
220	04	04	08	04	YHAFS		YLPFS		HAPG (3:0) HORIZONTAL APERTURE GAIN CONTROL			
221	2A	2A	2A	2A	|---- APCLP (7:0) HORIZONTAL APERTURE CLIP LEVEL ----|							

	NO-OSD-DISPLAY				DISTANCE							
ADDR	MODEL/DATA				CONTENT							
	NTSC		PAL									
	NOR	HI8	NOR	HI8	D7	D6	D5	D4	D3	D2	D1	D0
24B	DE	DE	DE	DE	|---- KY_MD (7:0) MOTION DETECTION ZOOM COEFFICIENT FOR VERTICAL ----							|
24C	00	00	00	00	|---- OSD_MODE (7:0) ----							|
24D	C1	C1	C1	C1	DIS_ENX	DIS_DNY	DIR_VX	DIR_VY	DXYSET	F_PROJ	HLF_SFT	FRM_VY
24E	00	00	00	00	|---- OX (7:0) AREA OFFSET OF MOTION DETECTION AREA IN X DIRECTION ----							|
24F	00	00	00	00	X	X	X	X	X	X	OX (9:8)	
250	00	00	00	00	|---- OY (7:0) AREA OFFSET OF MOTION DETECTION AREA IN Y DIRECTION ----							|
251	00	00	00	00	|---- CX (7:0) ASSIGNED MOTION VECTOR FOR X ---> MOTION CENTERING ----							|
252	06	06	06	06	|---- CY (7:0) ASSIGNED MOTION VECTOR FOR Y ---> MOTION CENTERING ----							|
253	00	00	00	00	AX (7:4) COMPENSATION MARGIN X				AY (3:0) COMPENSATION MARGIN Y			
254	33	33	33	33	|---- AUTO_CENT (7:0) AUTO CENTERING ----							|
255	88	88	88	88	VGGAINX (7:4) MOTION GAIN X				VGGAINY (3:0) MOTION GAIN Y			
256	21	21	21	21	VGSTEP (7:4) MOTION GAIN RECOVERY STEP				GSPEED (3:0) DISPLAY BAR GRAPH SPEED			
257	48	48	48	48	|---- THR_SEL (7:0) THRESHOLD CONTROL ----							|
258	11	11	11	11	|---- CXY_BIAS (7:0) SCENE CHANGE FILTER OFFSET FOR THRESHOLD ----							|
259	A5	A5	A5	A5	MATCHX_EN	MVX_FMIN	QUART_X		MVX_GAP (3:0) MISMATCH THRESHOLD			
25A	A5	A5	A5	A5	MATCHY_EN	MVY_FMIN	QUART_X		MVX_GAP (3:0) MISMATCH THRESHOLD			
25B	68	68	68	68	SHMFBC (7:4) SUM FILTER FEED BACK COEFFICIENT				SHMITT (3:0) SUM FILTER THRESHOLD			
25C	E0	E0	E0	E0	MVIIR_EN	SCENE_X	SCENE_Y	FRM_DIS	F_SELECT	HLD_HIST	HIST_SFT	
25D	00	00	00	00	OZNSEL (7:5) AF/AE DISPLAY WINDOW			OYISEL	OFILPASS	OLPFSEL	X	X
25E	73	70	8B	8B	|---- OAEVE_WB (7:0) AE WINDOW B, VERTICAL END POINT ----							|
25F	1E	1B	24	24	|---- OAEVS_WB (7:0) AE WINDOW B, VERTICAL START POINT ----							|
260	EA	E2	E7	E8	|---- OAEHE_WB (7:0) AE WINDOW B, HORIZONTAL END POINT ----							|
261	06	02	01	02	|---- OAEHE_WB (7:0) AE WINDOW B, HORIZONTAL START POINT ----							|
262	6A	6B	81	81	|---- OAEVE_WA (7:0) AE WINDOW A, VERTICAL END POINT ----							|
263	20	1D	26	26	|---- OAEVS_WA (7:0) AE WINDOW A, VERTICAL START POINT ----							|
264	BD	B9	B2	B3	|---- OAEHE_WA (7:0) AE WINDOW A, HORIZONTAL END POINT ----							|
265	3F	3B	31	32	|---- OAEHE_WA (7:0) AE WINDOW A, HORIZONTAL START POINT ----							|
266	5F	5C	71	71	|---- OAFVE_W2 (7:0) AF WINDOW 2, VERTICAL END POINT ----							|
267	25	22	29	29	|---- OAFVS_W2 (7:0) AF WINDOW 2, VERTICAL START POINT ----							|
268	A8	A4	A2	A3	|---- OAFHE_W2 (7:0) AF WINDOW 2, HORIZONTAL END POINT ----							|
269	4E	4A	47	48	|---- OAFHS_W2 (7:0) AF WINDOW 2, HORIZONTAL START POINT ----							|
26A	76	76	8D	8D	|---- OAFVE_W1 (7:0) AF WINDOW 1, VERTICAL END POINT ----							|
26B	03	03	04	04	|---- OAFVS_W1 (7:0) AF WINDOW 1, VERTICAL START POINT ----							|
26C	E5	E5	DC	DC	|---- OAFHE_W1 (7:0) AF WINDOW 1, HORIZONTAL END POINT ----							|
26D	03	03	06	06	|---- OAFHS_W1 (7:0) AF WINDOW 1, HORIZONTAL START POINT ----							|
26E	00	00	00	00	|---- OYL_TH (7:0) AE Y SINGLE LOW THRESHOLD ----							|
26F	FF	FF	FF	FF	|---- OYH_TH (7:0) AE Y SINGLE HIGH THRESHOLD ----							|
270	C0	C0	C0	C0	|---- OAECLIP_TH (7:0) AE CLIP COUNT THRESHOLD ----							|
271	C0	C0	C0	C0	|---- OAFCLIP_TH (7:0) AF CLIP COUNT THRESHOLD ----							|
272	00	00	00	00	|---- PFCNT_MI (7:0) DEFECT COUNT VALUE FROM MICOM ----							|
273	28	28	28	28	|---- PTHRESH (7:0) DIGITAL CLAMP THRESHOLD VALUE FROM MICOM ----							|

3-1-3 Ass'y Front Removal

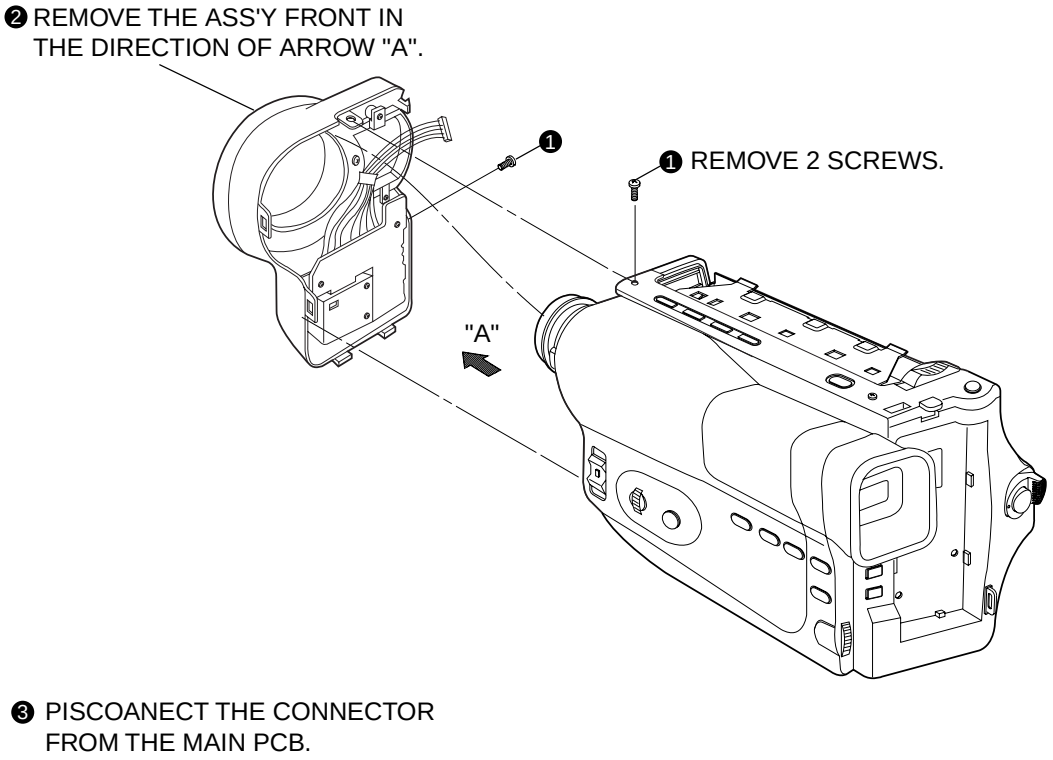


Fig.3-3 Ass'y Front Removal

3-1-4 Ass'y Case Left Removal

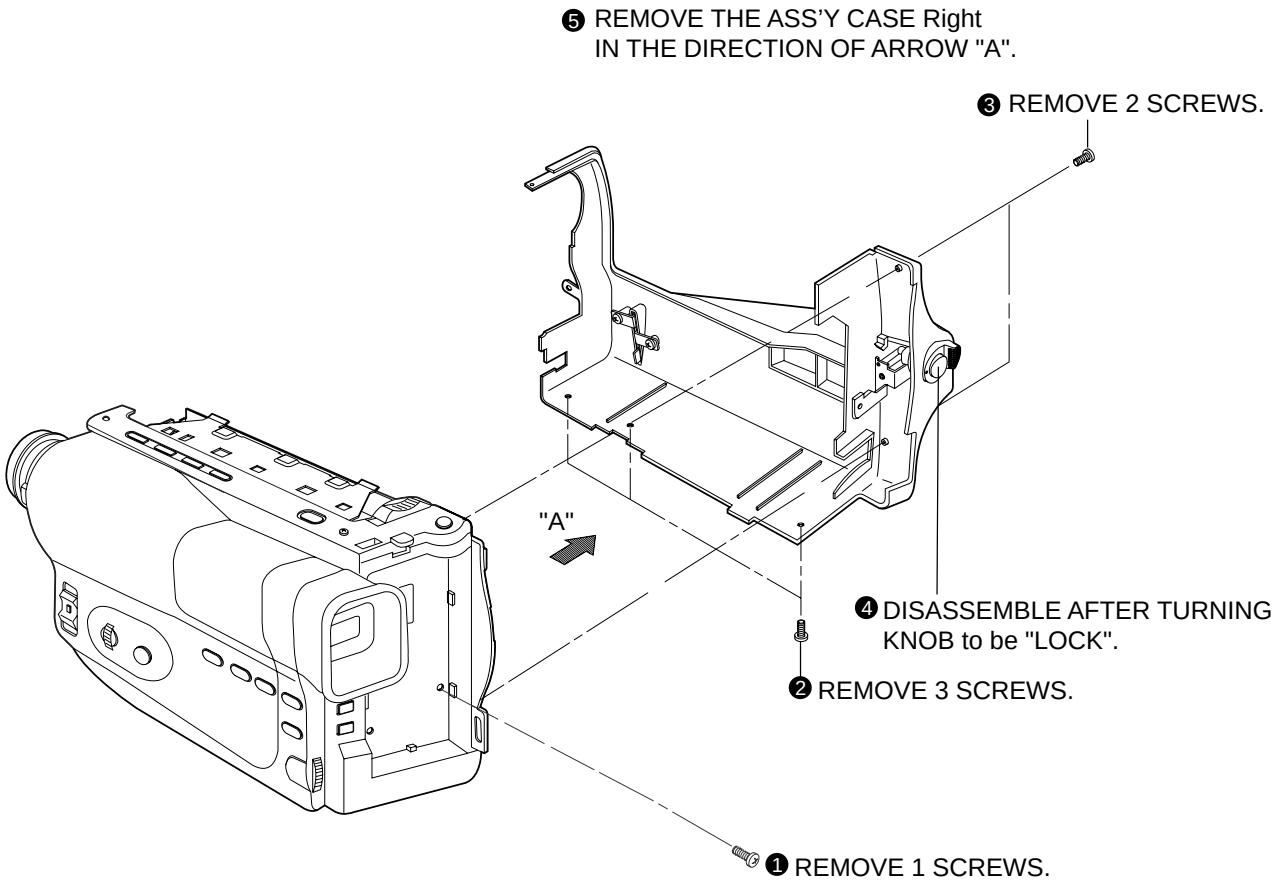

❺ REMOVE THE ASS'Y CASE Right
IN THE DIRECTION OF ARROW "A".
❸ REMOVE 2 SCREWS.
"A"
❹ DISASSEMBLE AFTER TURNING
KNOB to be "LOCK".
❷ REMOVE 3 SCREWS.
❶ REMOVE 1 SCREWS.

Fig. 3-4 Ass'y Case Left Removal

3-1-5 Ass'y Case Right Removal

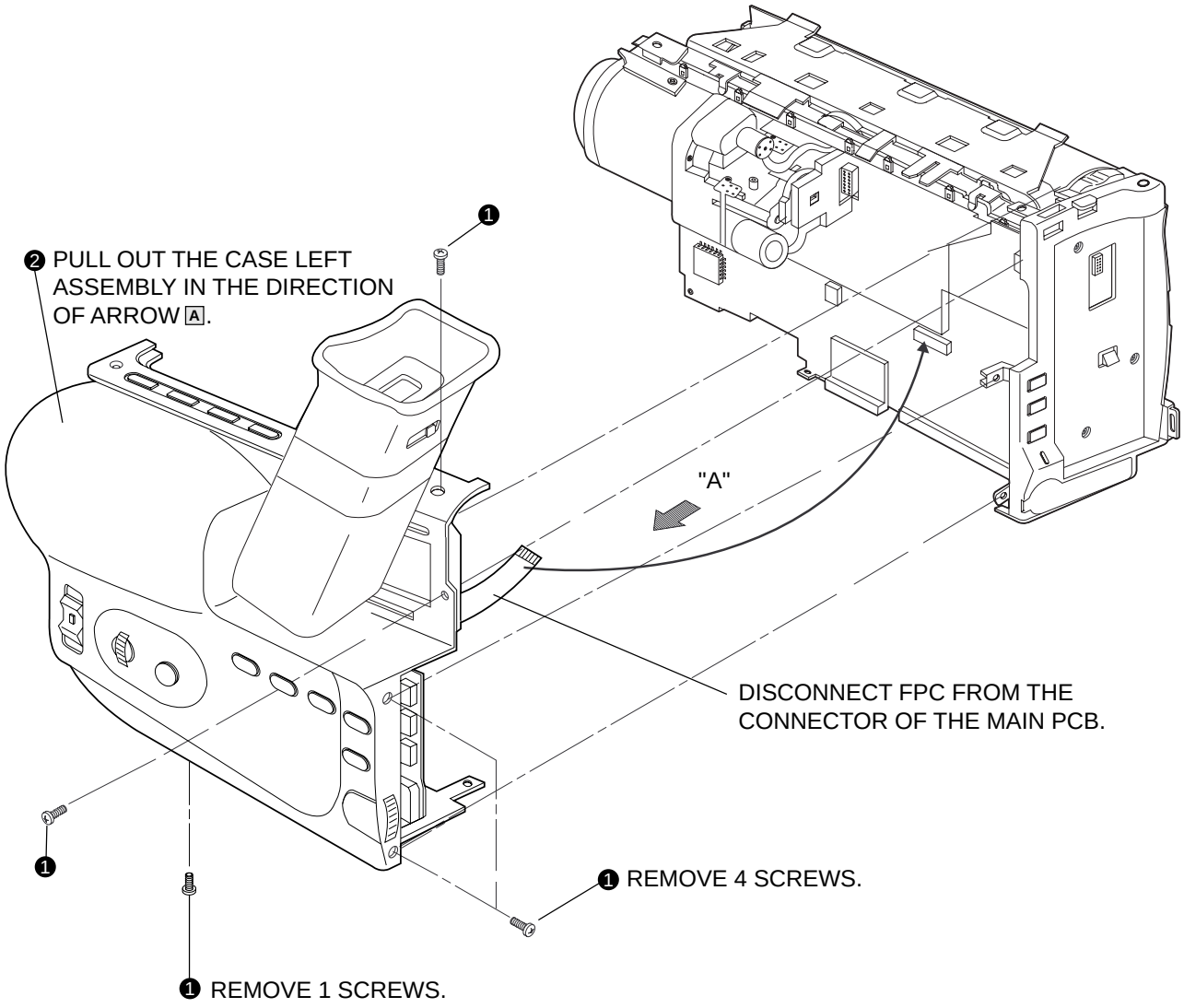

❶
❷ PULL OUT THE CASE LEFT ASSEMBLY IN THE DIRECTION OF ARROW A.
"A"
DISCONNECT FPC FROM THE CONNECTOR OF THE MAIN PCB.
❶
❶ REMOVE 4 SCREWS.
❶ REMOVE 1 SCREWS.

Fig. 3-5 Ass'y Case Right Removal

3-1-6 Ass'y EVF/CVF Removal

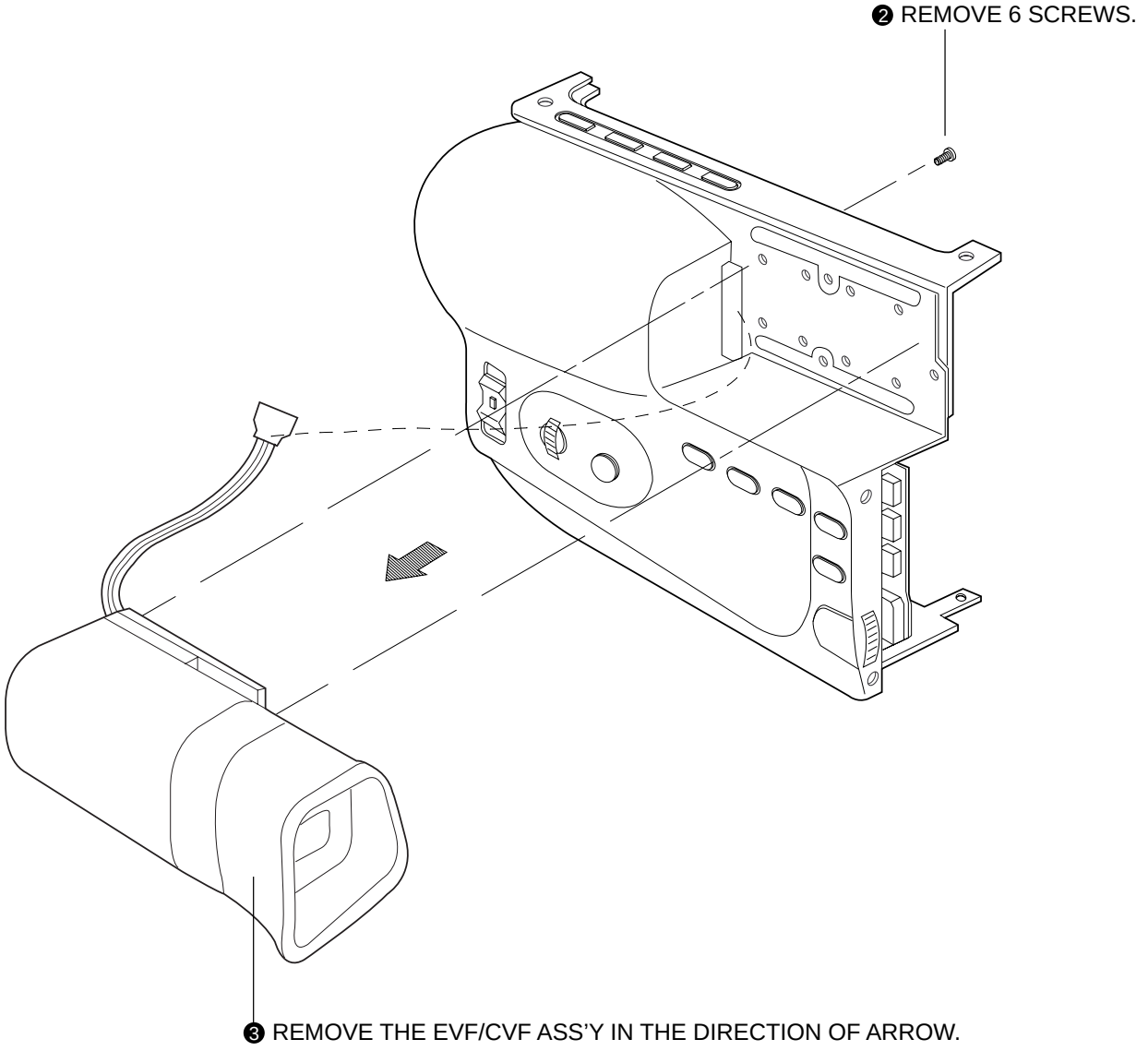


Fig. 3-6 Ass'y EVF/CVF Removal

3-1-7 Ass'y Rear Board Removal

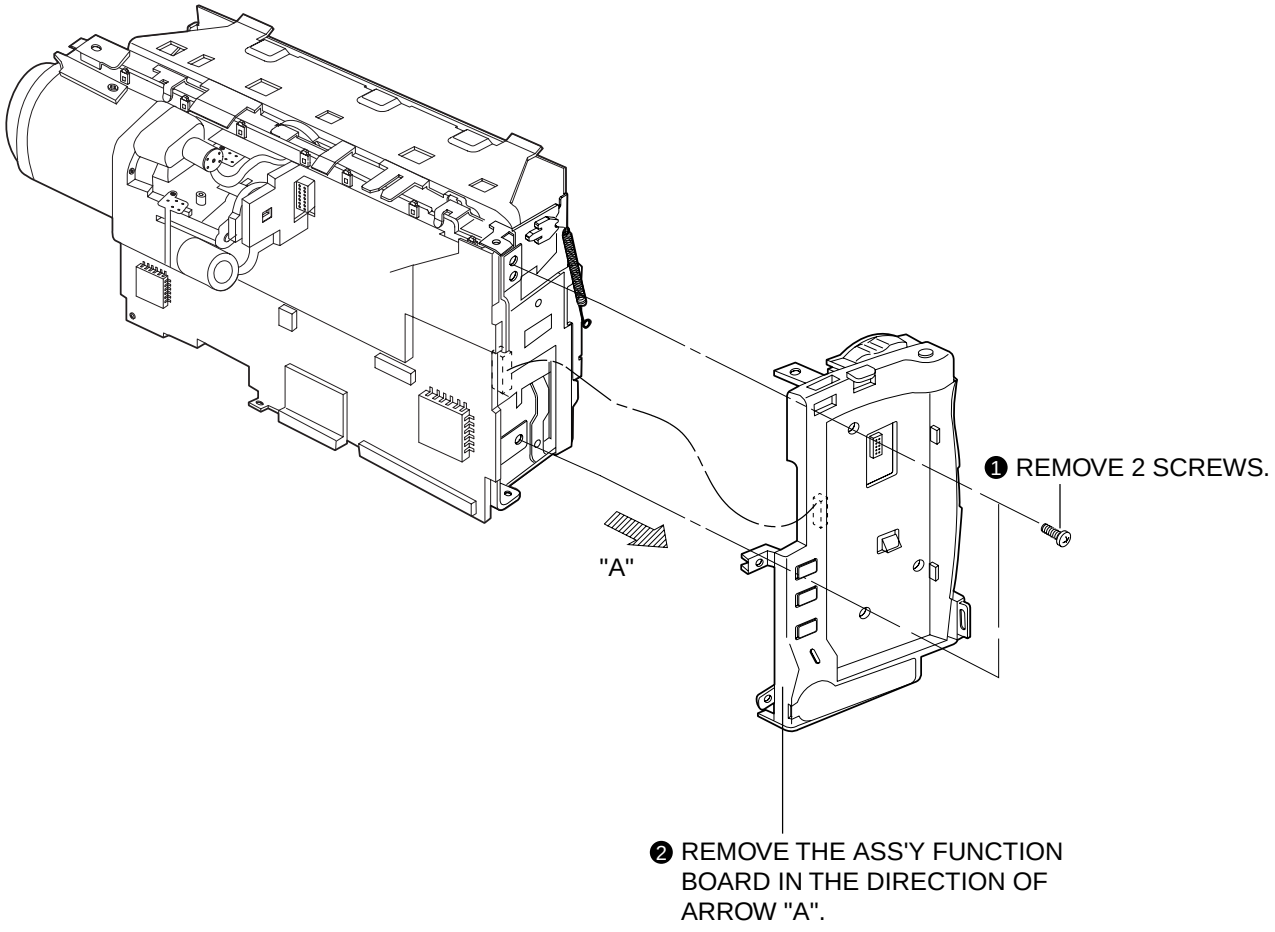


Fig. 3-7 Ass'y Rear Board Removal

3-1-8 Ass'y Deck and Main PCB Removal

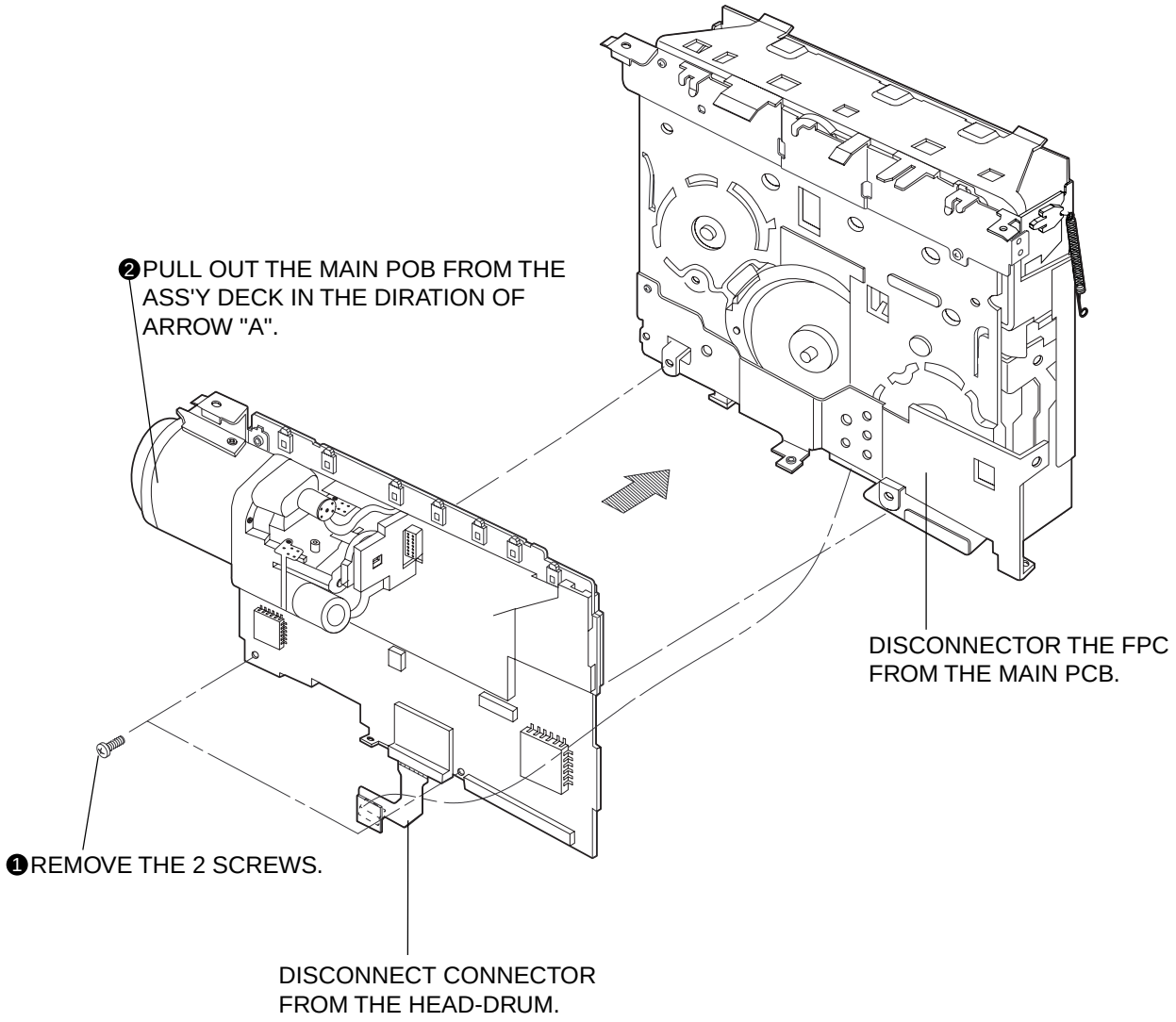

❷PULL OUT THE MAIN POB FROM THE ASS'Y DECK IN THE DIRATION OF ARROW "A".
DISCONNECTOR THE FPC FROM THE MAIN PCB.
❶REMOVE THE 2 SCREWS.
DISCONNECT CONNECTOR FROM THE HEAD-DRUM.

Fig. 3-8 Ass'y Deck and Main PCB Removal

3-1-9 Ass'y Camera Removal

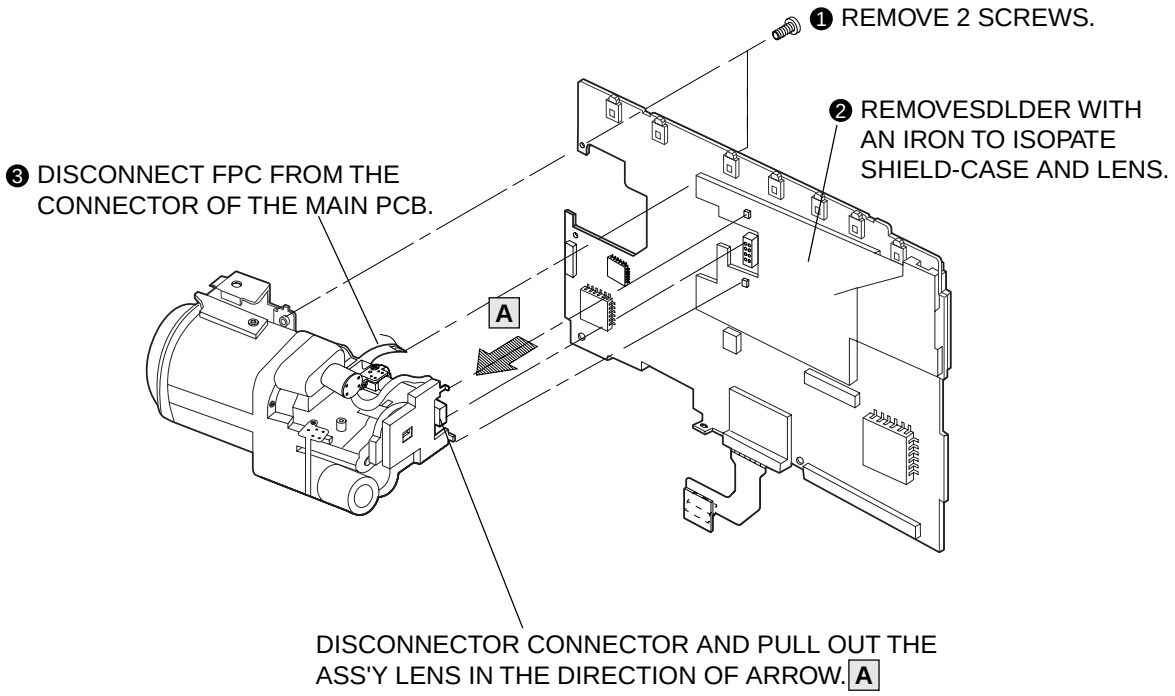

❶ REMOVE 2 SCREWS.
❷ REMOVESDLDER WITH AN IRON TO ISOPATE SHIELD-CASE AND LENS.
❸ DISCONNECT FPC FROM THE CONNECTOR OF THE MAIN PCB.
A
DISCONNECTOR CONNECTOR AND PULL OUT THE ASS'Y LENS IN THE DIRECTION OF ARROW. A

Fig. 3-9 Ass'y Camera Removal

3-2. Circuit Boards Location

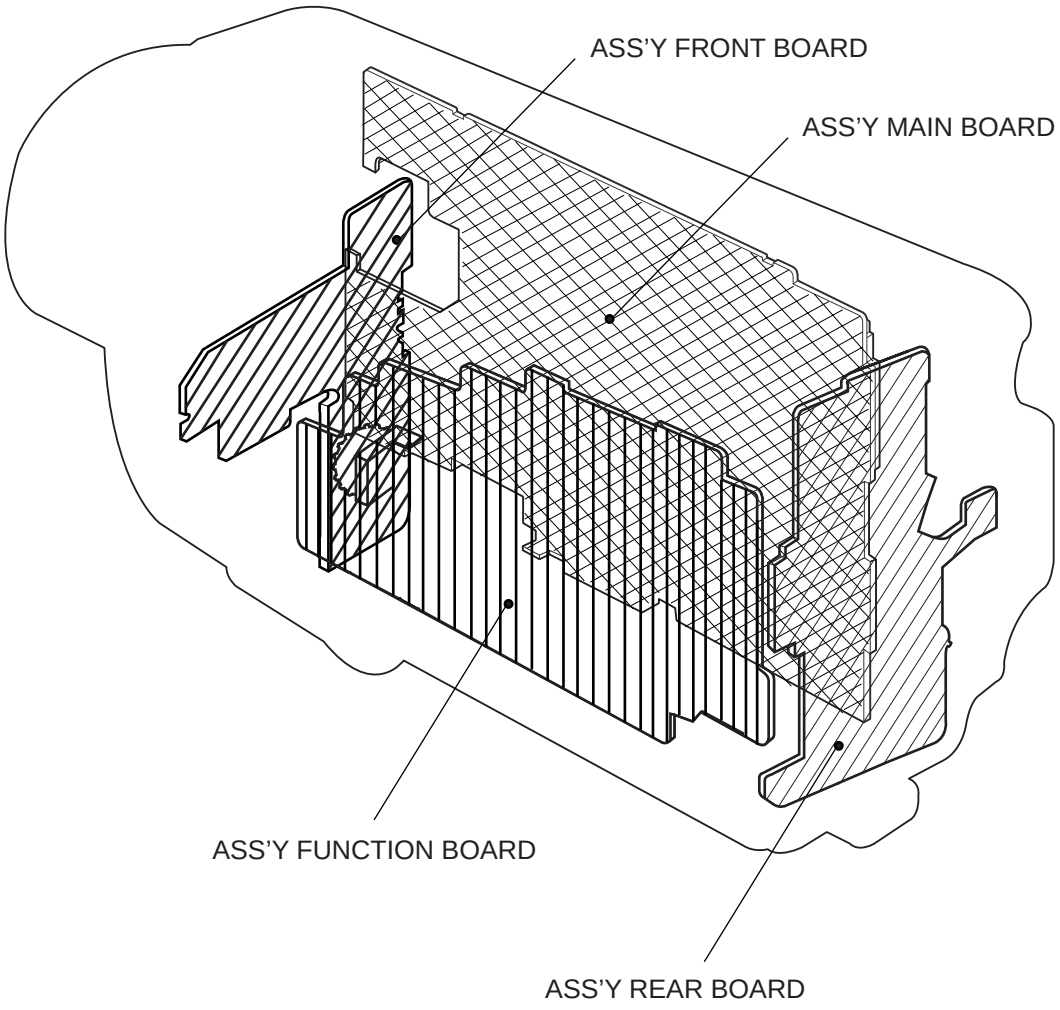
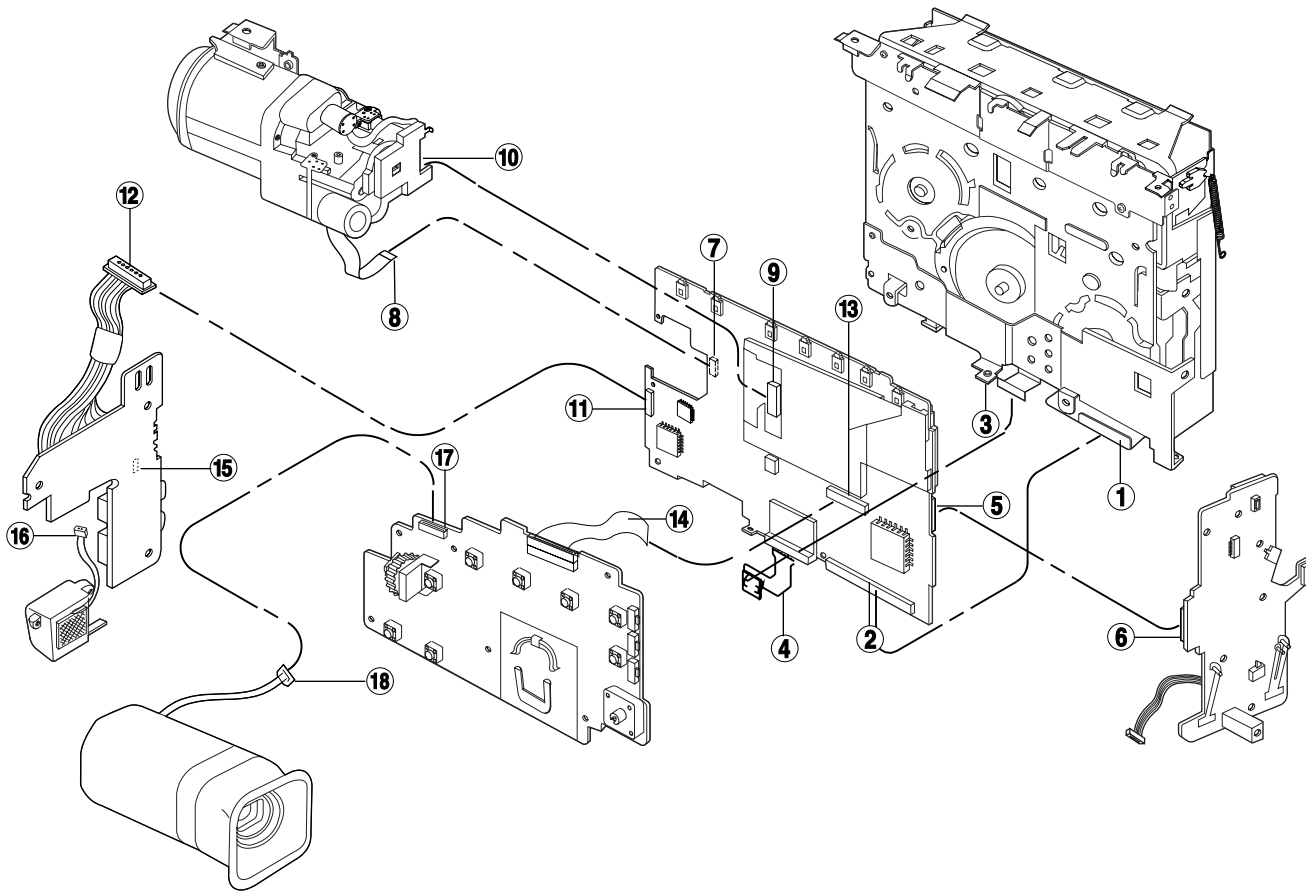


Fig. 3-10 Circuit Boards Location

3-3. Connector Diagram



NO.	CONNECTOR	DIRECTION	CONNECTOR	NO.
①	DECK FPC	DECK ⟷ MAIN PCB	CN501	②
③	DRUM HEAD FPC	DECK ⟷ MAIN PCB	CN52	④
⑤	CN601	MAIN PCB ⟷ REAR PCB	CN451	⑥
⑦	CNP02	MAIN PCB ⟷ ASS'Y LENS PCB	LENS FPC	⑧
⑨	CNP01	MAIN PCB ⟷ CCD PCB	CNC01	⑩
⑪	CN701	MAIN PCB ⟷ FRONT PCB	CN801	⑫
⑬	CN602	MAIN PCB ⟷ FUNCTION PCB	CN471	⑭
⑮	CN802	FRONT PCB ⟷ ASS'Y MIC	MIC CONNECTOR	⑯
⑰	CN473	FUNCTION PCB ⟷ ASS'Y CVF(EVF)	CVF(EVF) FPC	⑱

Fig. 3-11 Connector Diagrams

MEMO

2-2 PAL Model (VP-M50/M51/M51B/M52/M53/M54)

System	VP-M50/M51/M51B/M52/M53/M54
Recording system	Video: 2 rotary heads Helical scanning FM Audio: FM monaural system
Video signal	PAL color, CCIR standard
Usable cassette	VP-M50/M51/M51B/M52/M53: 8mm VP-M54: Hi8 or 8mm
Tape speed	SP: 20.051 mm/sec
Speed mode	Record: SP only, Playback: SP and LP
Recording time	P5-120: 120 min.
FF or REW time	P5-120: approx. 8 min.
Image device	CCD(Charge Coupled Device)
Optical zoom ratio	22X
Focal lengh: f	3.6 ~ 79.2 mm
F	1.6
Filter diameter	46 mm
Focus system	Inner
Macro	Auto wide macro
Min. Illumination	0.3 lux (visible)
Connectors	
Video out	Mini jack, 1 Vp-p, 75 ohms, Unbalanced
Audio out	Mini jack 7.7 dBs, imp.: less than 1.8 K ohms
External mic	Monaural, Ø3.5
General	
Power requirement	7.4 ~ 8.4 V DC
Power consumption	VP-M50/M51/M51B/M52: 3.9W, VP-M53: 4.4W, VP-M54: 4.9W
Built-in mic	Condenser mic, omni-directional
Operating temperature	0°C to 40°C
Dimension (W x H x D)	101 x 104 x 174.3 (mm)
Weight	670g

⌘ The technical specifications and design may be changed without notice.

MEMO